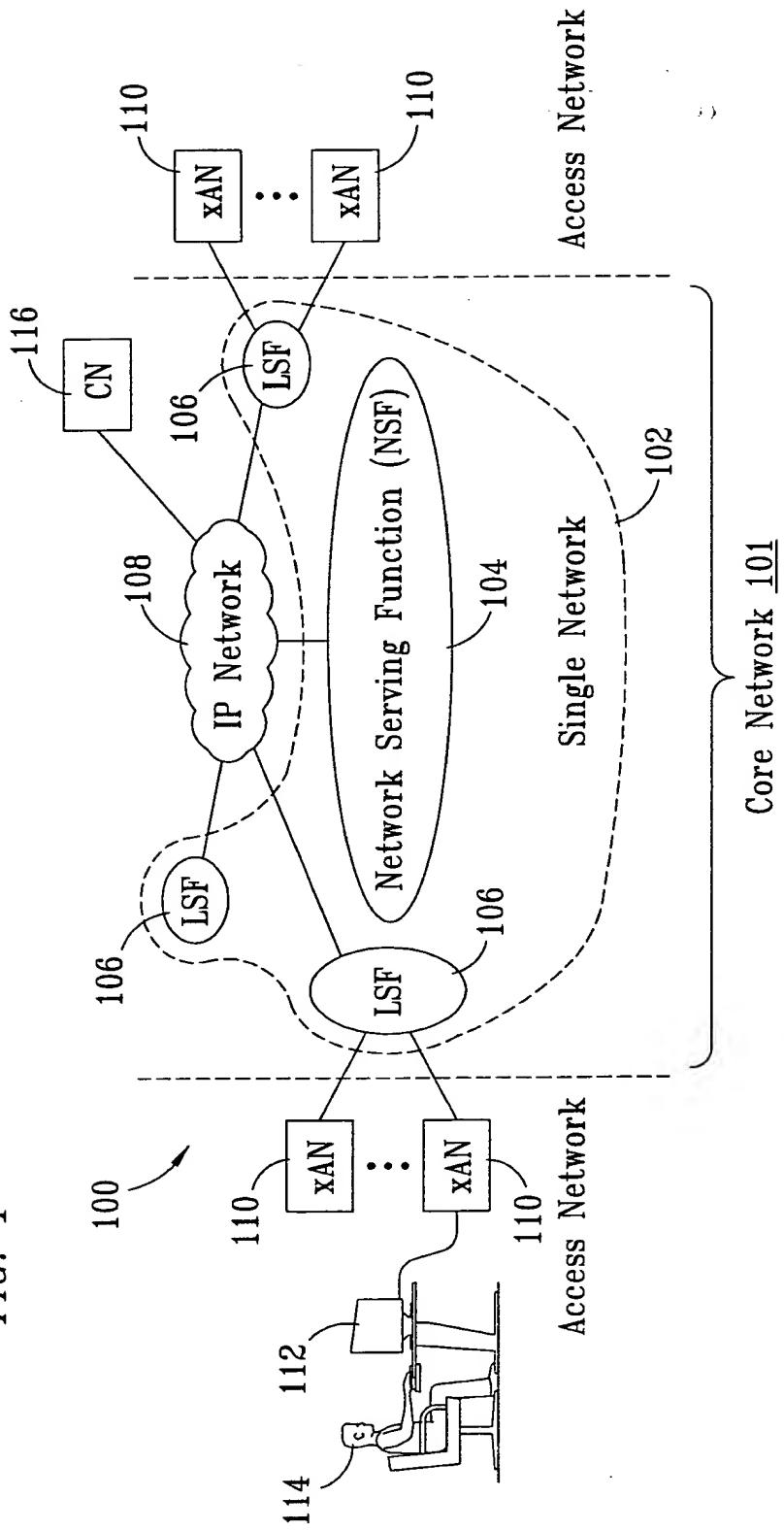


FIG. 1



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FIG. 2

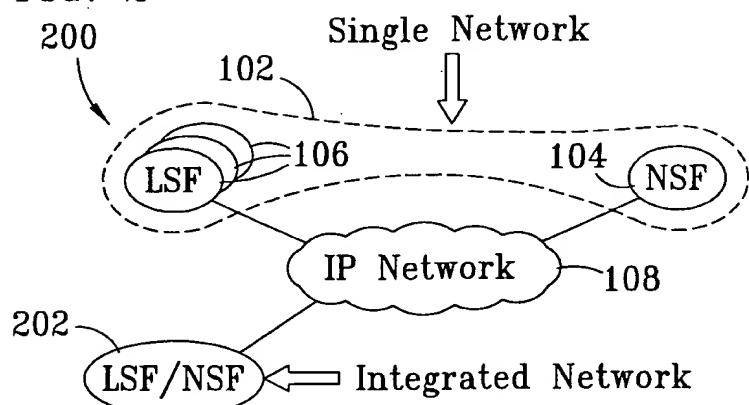


FIG. 3

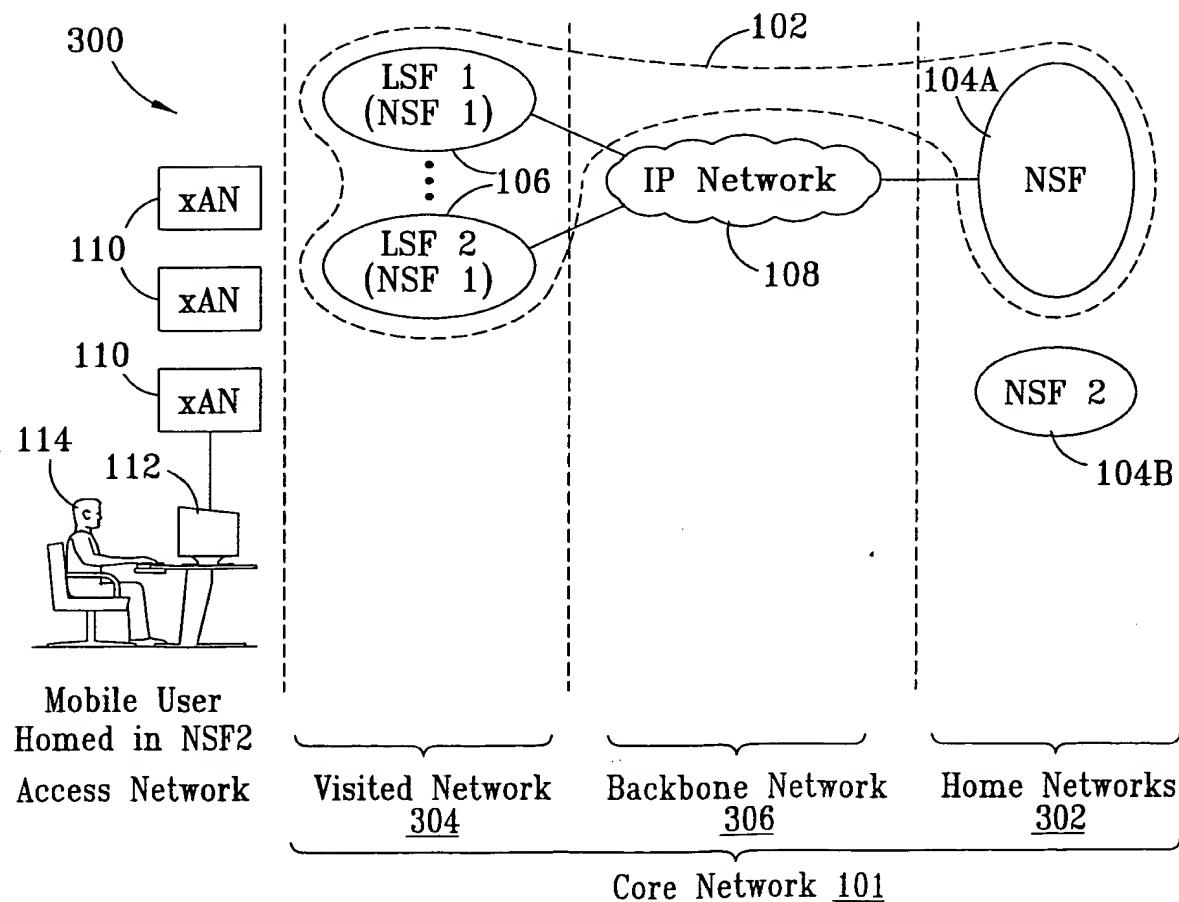
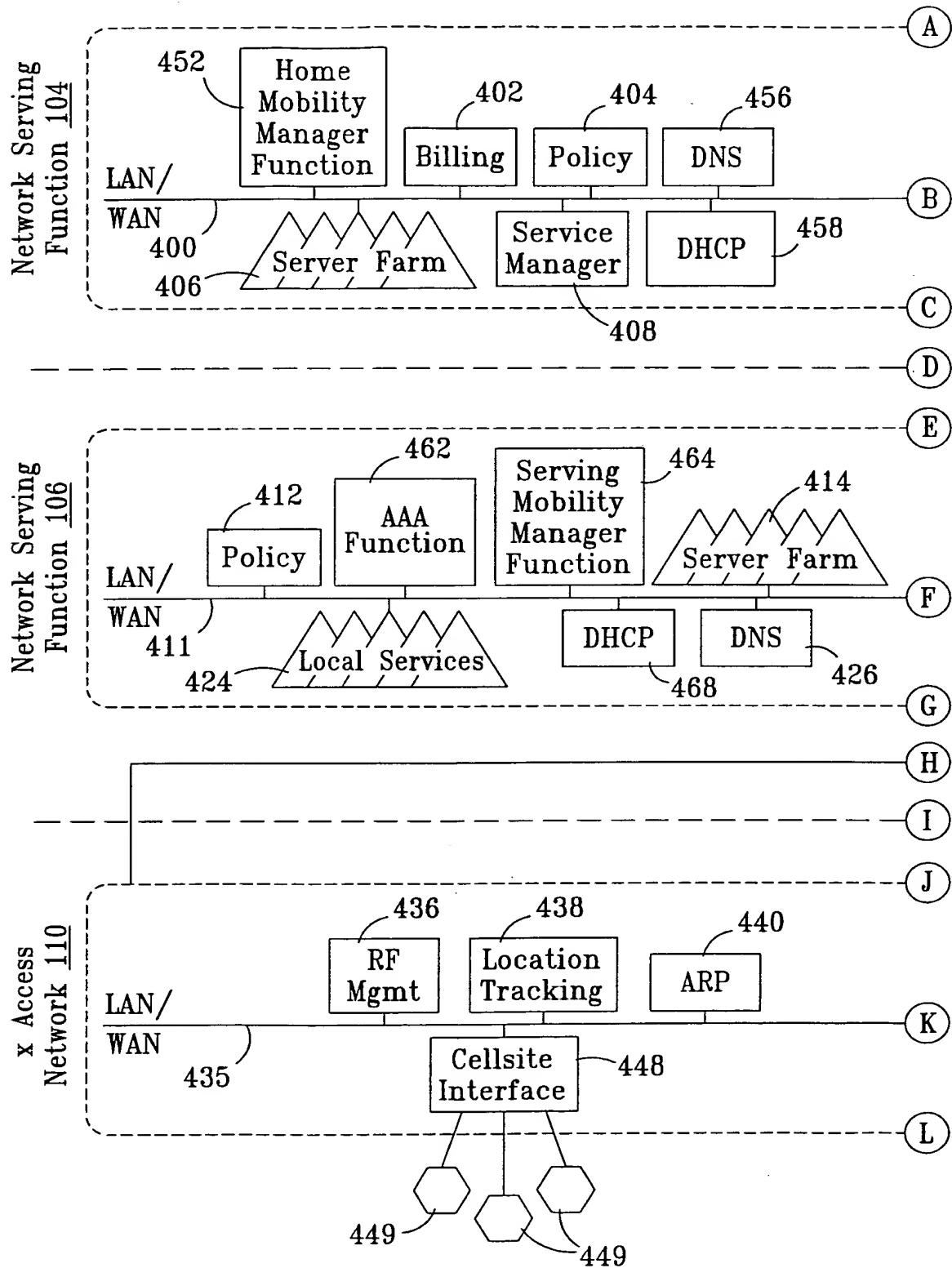


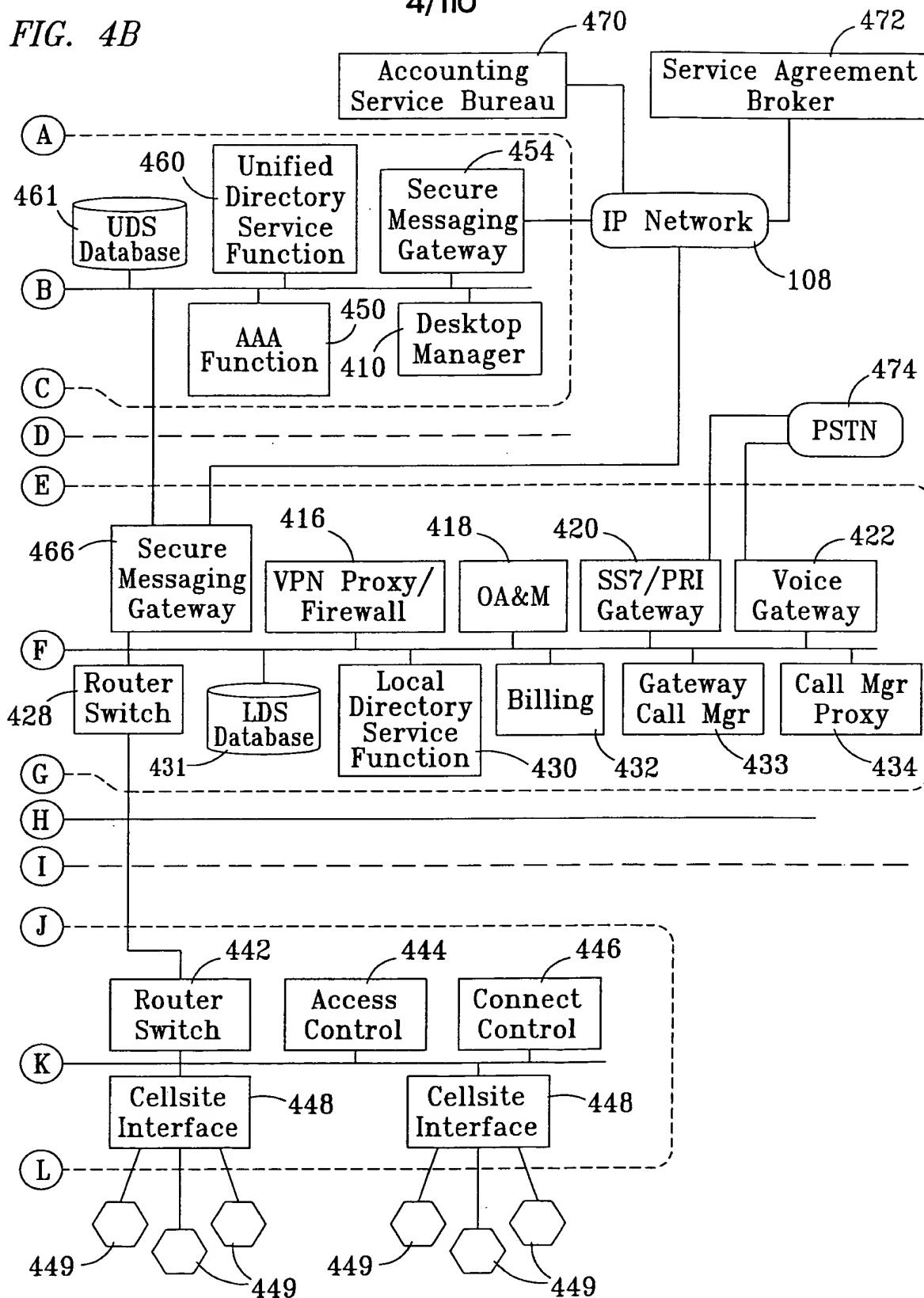
FIG. 4A

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FIG. 4B



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FIG. 4C

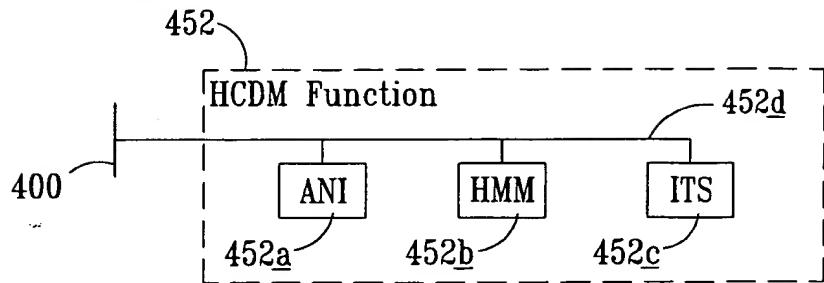


FIG. 4D

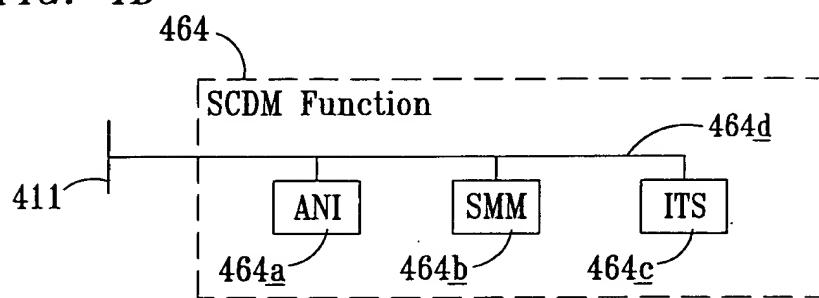


FIG. 4E

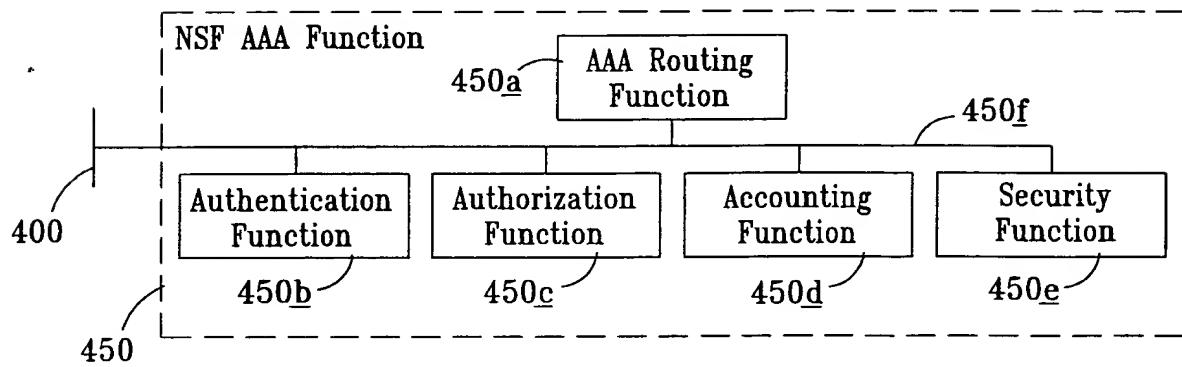


FIG. 4F

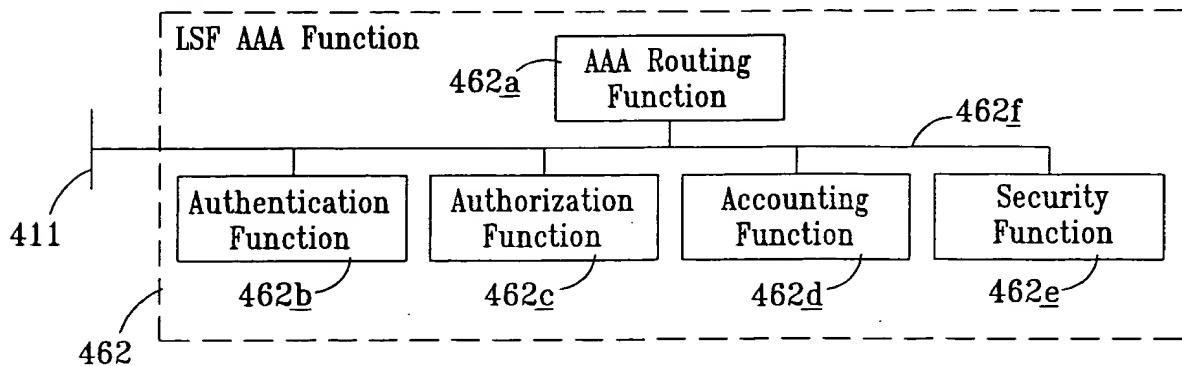
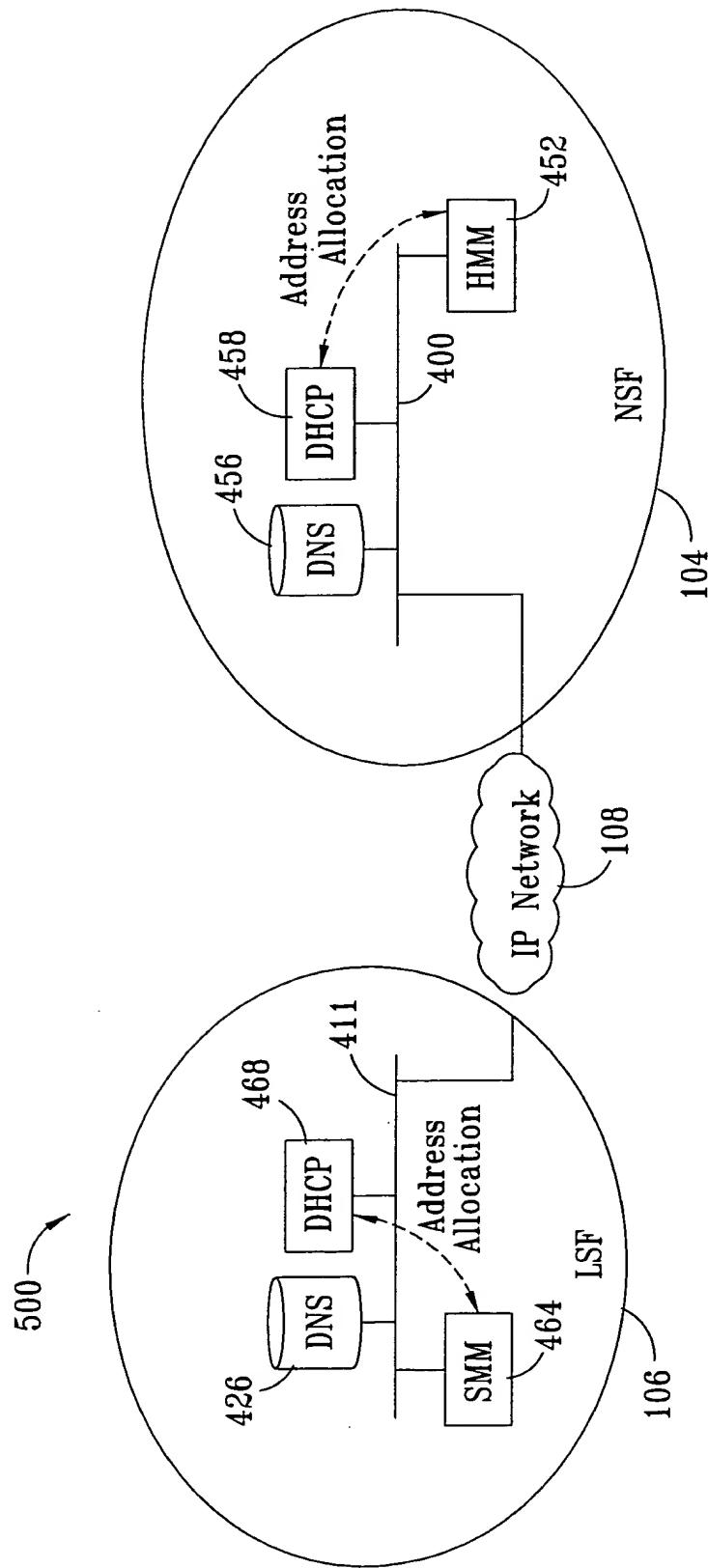
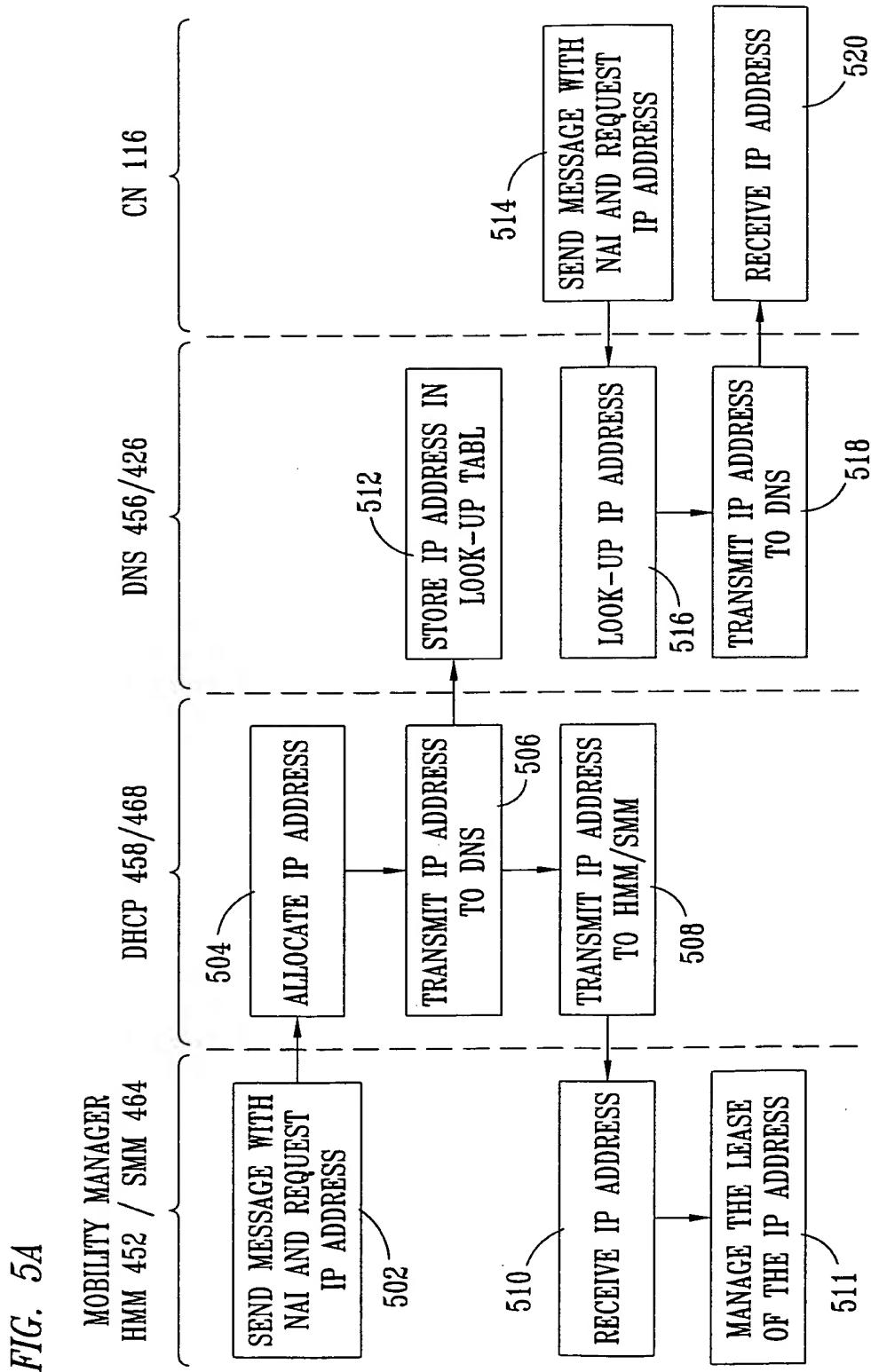
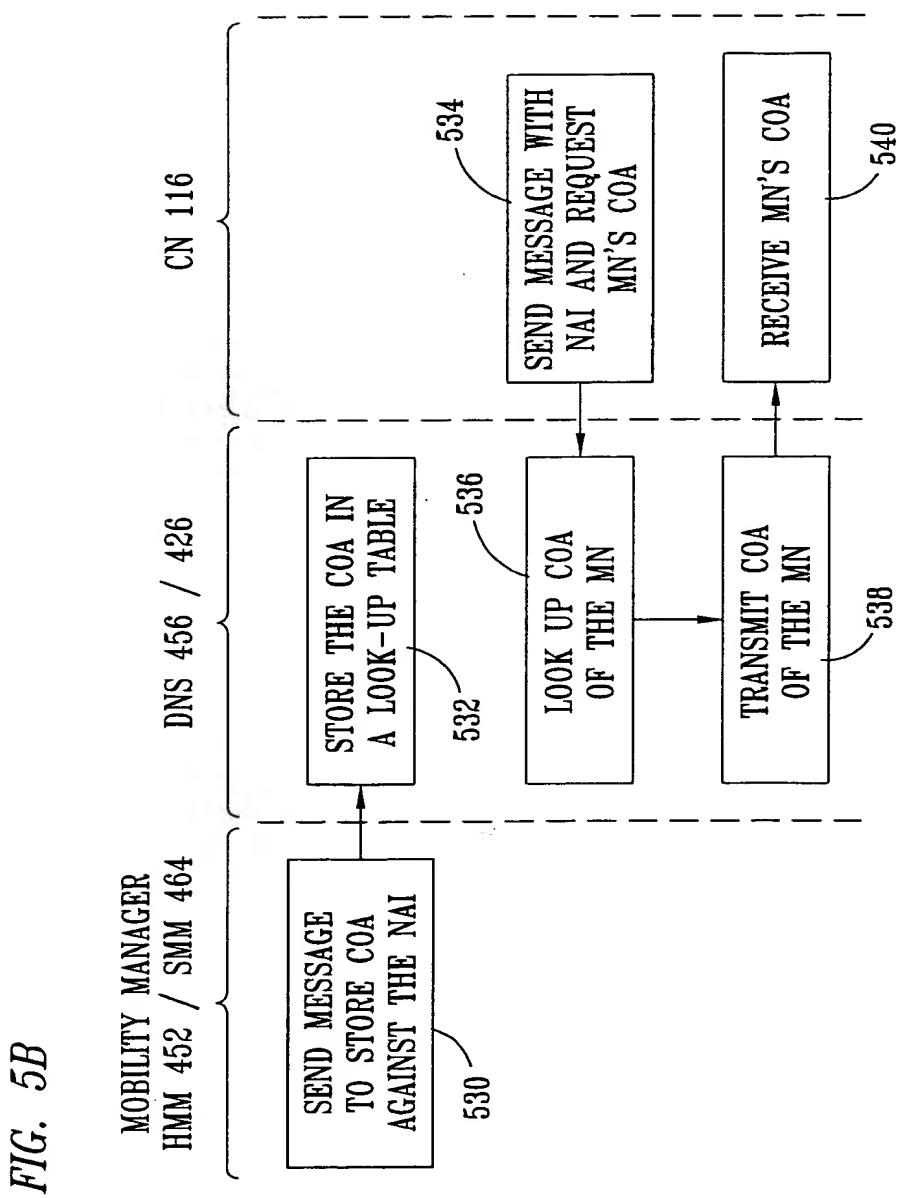


FIG. 5

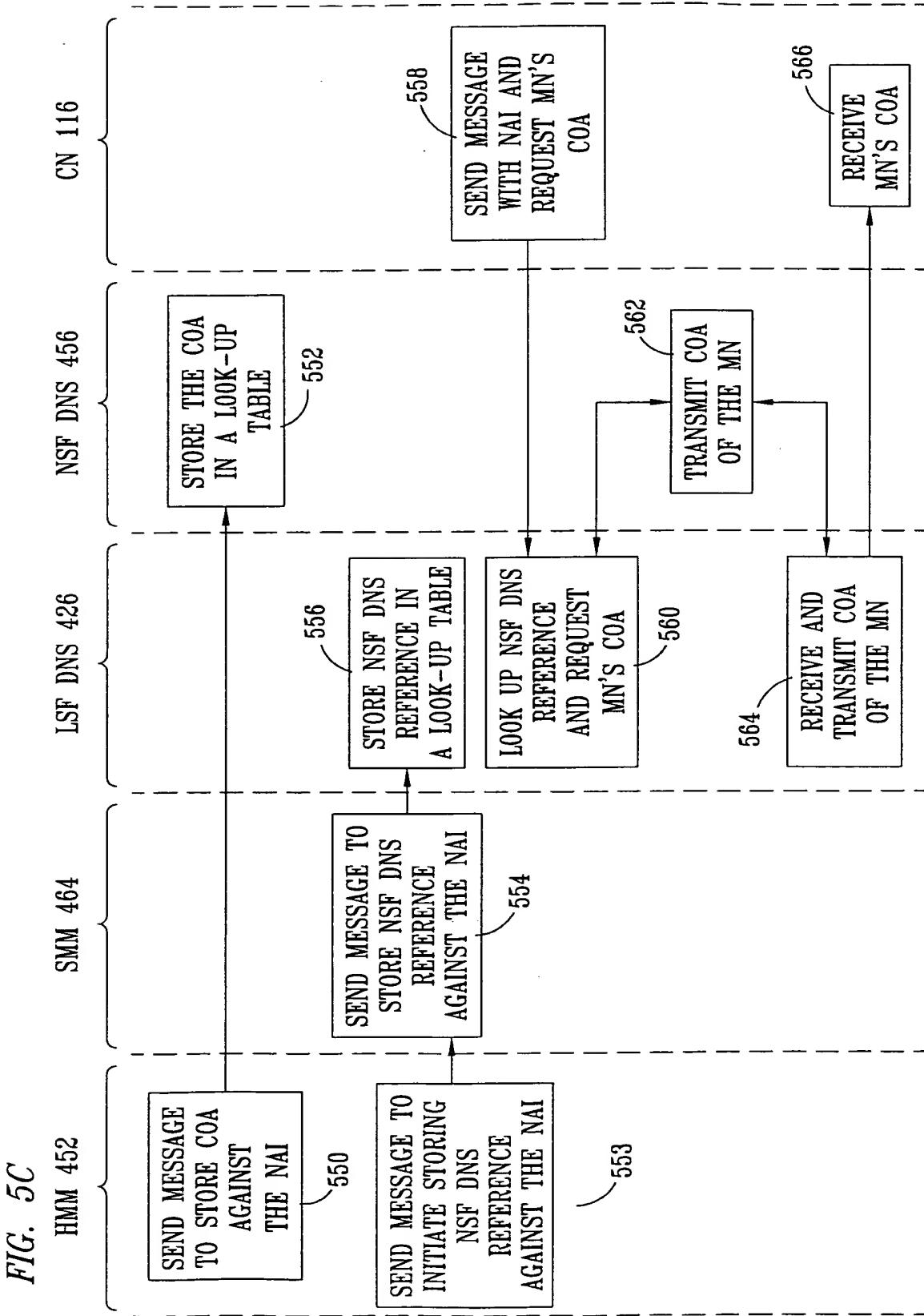


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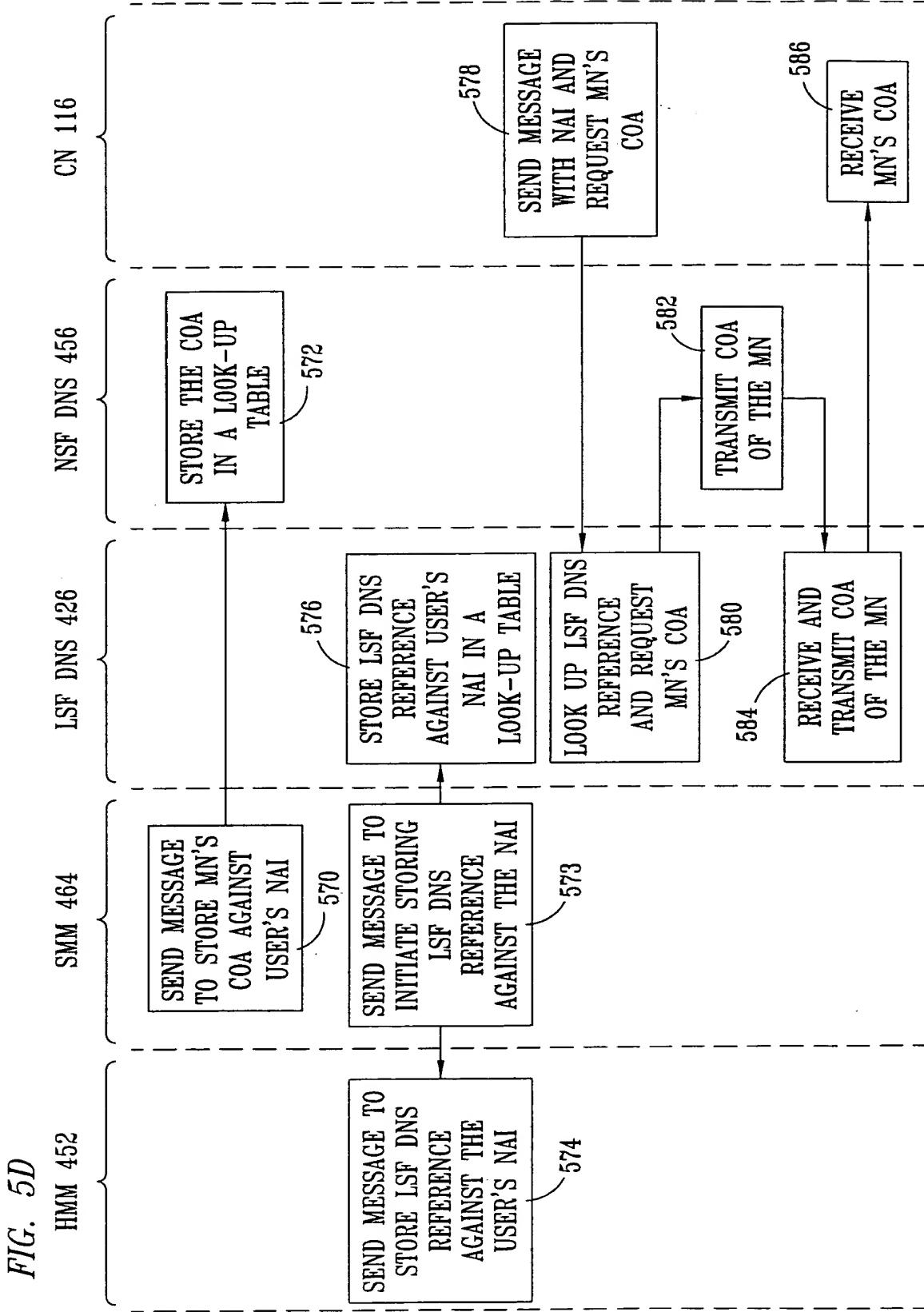




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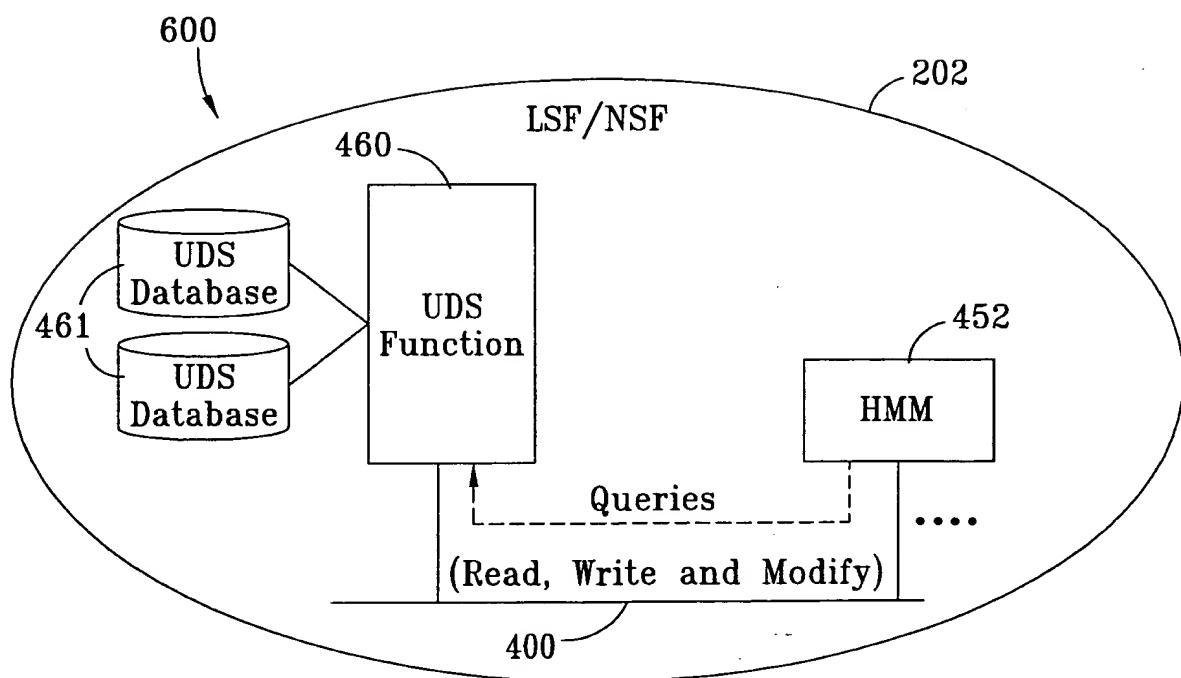


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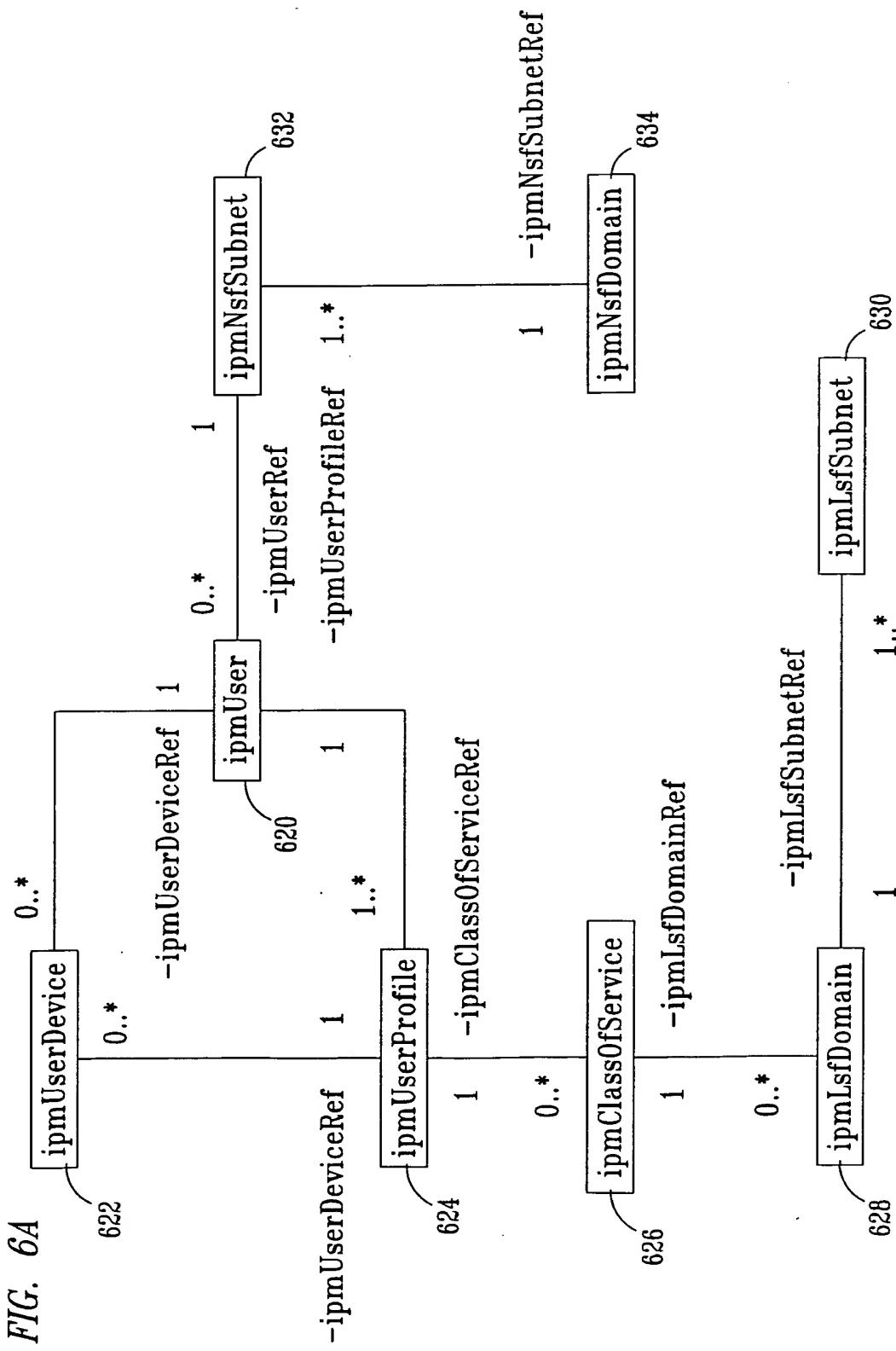


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FIG. 6



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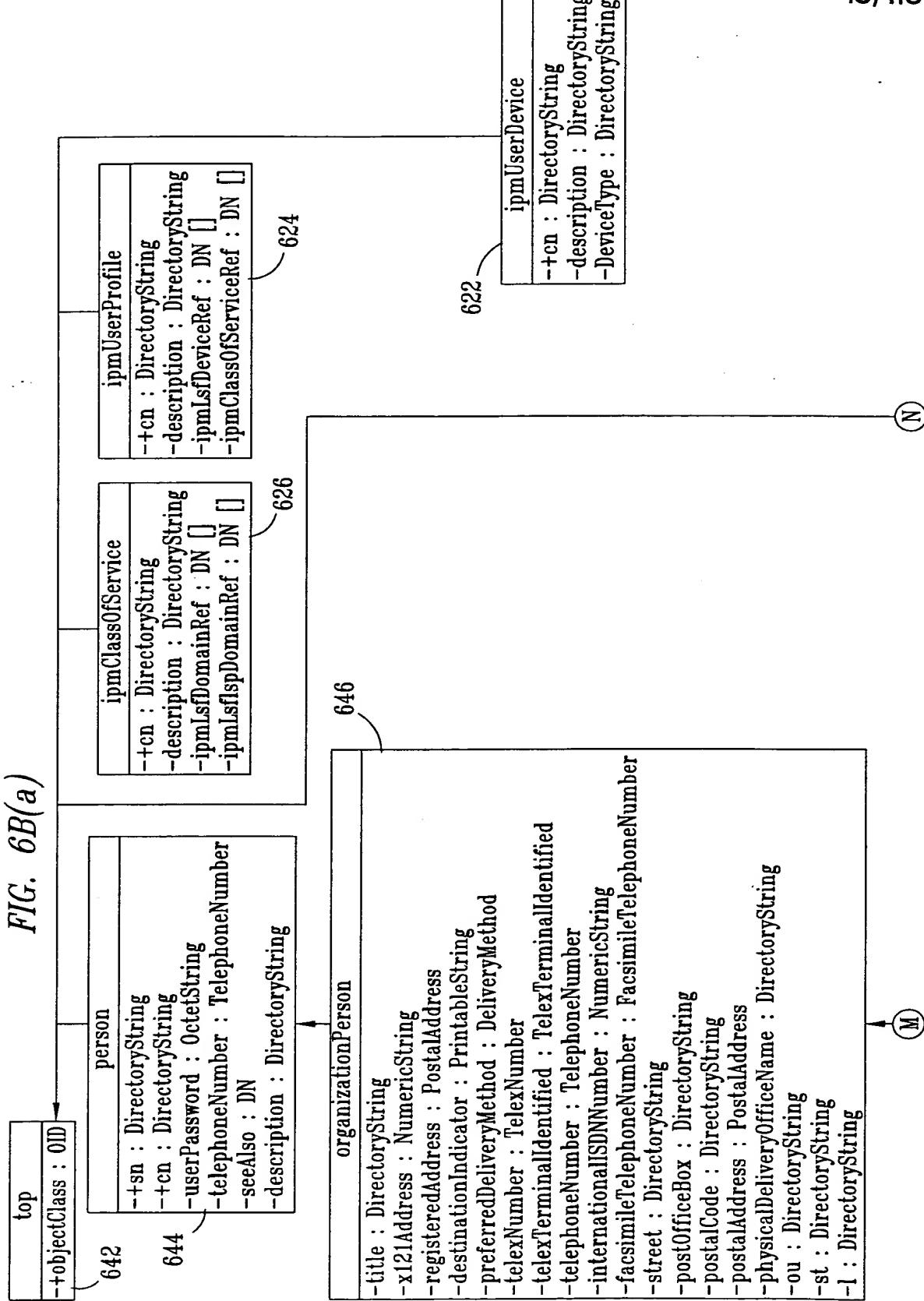
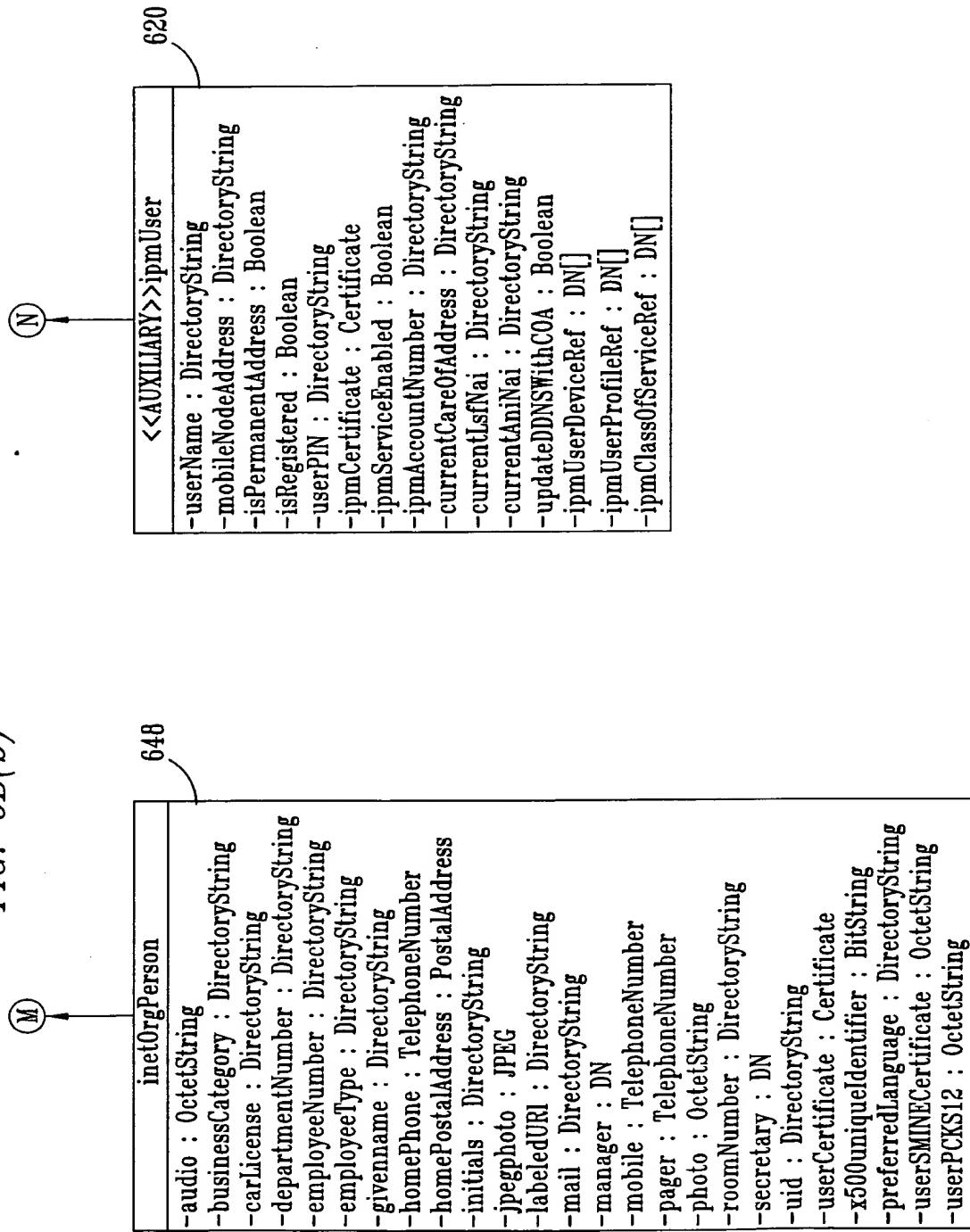
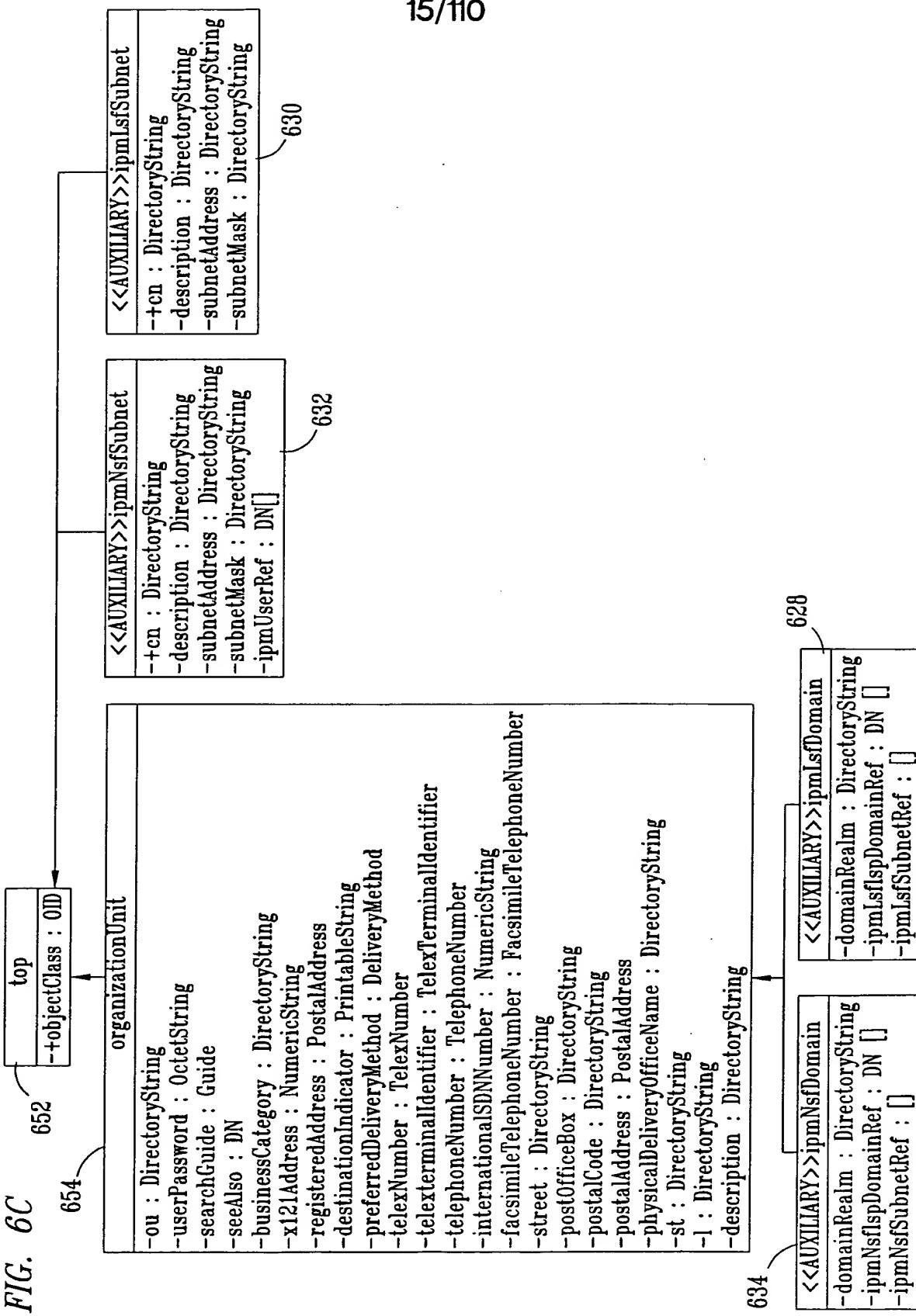


FIG. 6B(b)



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FIG. 6D

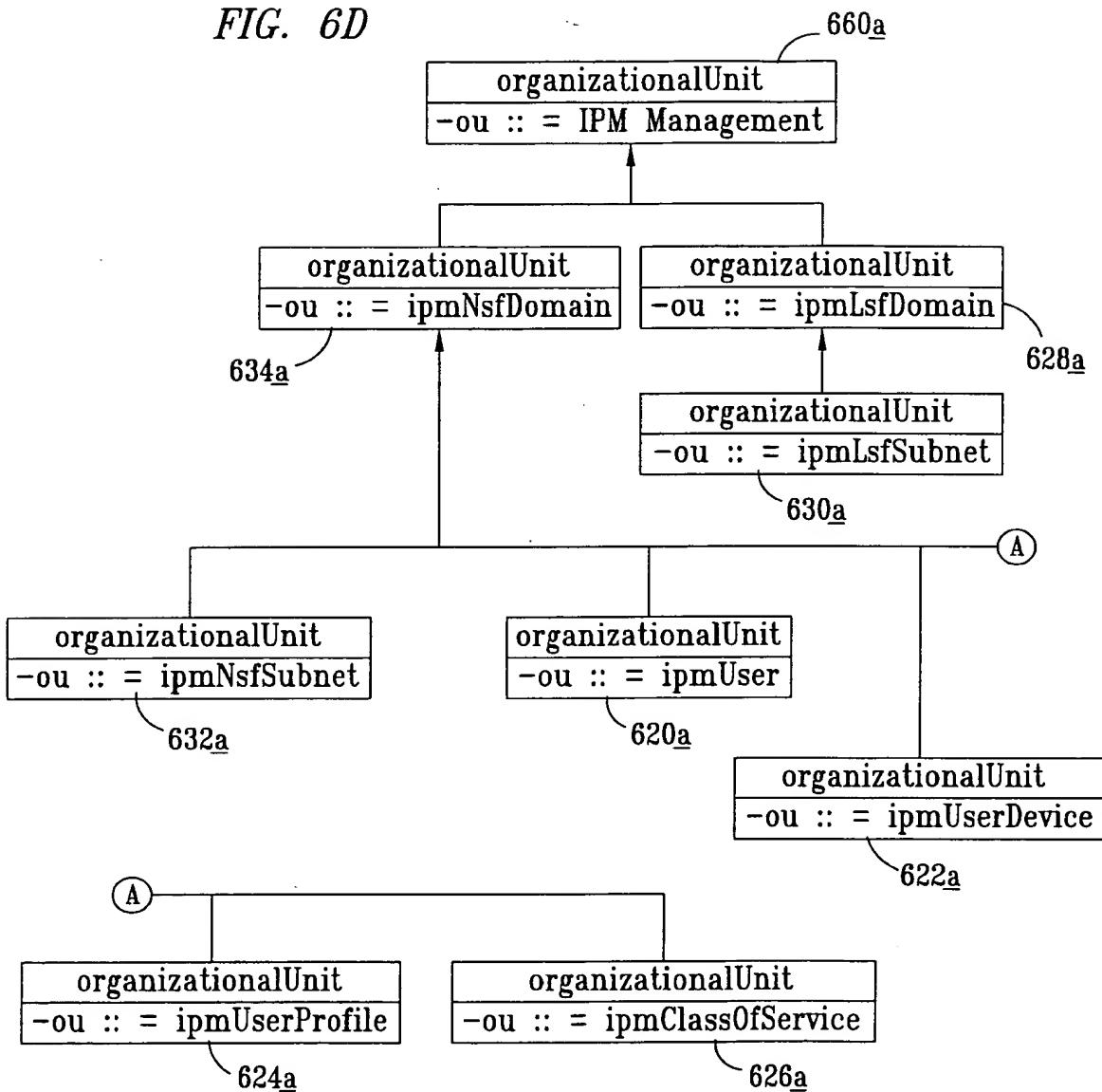


FIG. 6E(a)

Name	Type	MatchingRule	Multi-Valued	Purpose	Example
userName	Directory String	CaseIgnoreString	No	The name of the User (subscriber)	johndoe
MobileNodeAddress	Directory String	CaseIgnoreString	No	Mobile Node's home IP address	100.150.128.1
IsAddressPermanent	Boolean	CaseIgnoreString	No	Flag signifying whether the Mobile Node's home IP address was permanently provisioned or allocated (e.g. by DHCP)	FALSE
IsRegistered	Boolean	CaseIgnoreString	No	Flag signifying whether the Mobile Node is presently registered	TRUE
currentLsfNai	Directory String	CaseIgnoreString	No	NAI of the LSF at which the Mobile Node is registered	smm1@southwesternbell.com
currentAniNai	Directory String	Integer	No	4 byte code identifying the Mobile Node's routing area (i.e. as is GPRS routing area)	95

(P)

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FIG. 6E(b)

currentCare0fAddress	Certificate	CaselgnoreString	No	IP Care of Address for the roaming Mobile Node	240.240.10.66
ipmAccountNumber	Directory String	CaselgnoreString	No	User's account number assigned by the IPM security center	12345678
ipmCertificate	Certificate	CaselgnoreString	No	User's Certificate generated by IPM Security Center	
userPIN	Directory String	CaselgnoreString	No	User PIN number.. It is an integer selected by the user to secure the access to his account	123decx456
ipmUserProfileRef	DN	DN	Yes	The reference for the user profile objectclass	DN: "uid=JohnJoe, ou=ipmUserProfile, ou=ipm Management, o=nortelnetworks"
ipmClass0fServiceRef	DN	DN	Yes	The reference for the user class of service objectclass	DN: "uid=JohnJoe, ou=ipmClass0fService, ou=ipm Management, o=nortelnetworks"

FIG. 6E(c)

ipmUserDeviceRef	DN	DN	Yes	The reference for the user device objectclass	DN: "uid=JohnJoe, ou=ipmUserDevice, ou=ipm Management, o=nortelnetworks"
UpdateDDNSWithCOA	Directory String	DN	No	Update the DNS with the COA	TRUE
IPMServiceEnabled	Boolean	CaseIgnoreString	No	Flag signifying whether the IPM service is enabled	FALSE
Key Inherited attributes:					
objectclass		CaseIgnoreString	Yes	Schema objectclass that define mandatory and optional attributes	ipmUser
cn		CaseIgnoreString	Yes	Common Name is the same as the nailUser for the phase I prototype	john doe@nortelnetworks.com
sn		CaseIgnoreString	No	Surname (i.e. last name)	Doe
c		CaseIgnoreString	No	ISO 3166 County Code, optional	US

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FIG. 6E(d)

		CaseIgnoreString	No	Locality(i,e. city or region), this is for user's address, optional	Dallas
st	CaseIgnoreString	No	State or Province, optional	Texas	
street	CaseIgnoreString	No	Street address, optional	2201 Lakeside Blvd	
apt	Integer	No	Apartment number	2061	
homePhoneNumber	CaseIgnoreString	No	User's home phone number	972-492-1777	
password	CaseIgnoreString	No	User's password	Ue998cd567	

FIG. 6F

Name	Type	MatchingRule	Multi-Valued	Purpose	Example
cn	Directory String	CaseIgnoreString	No	Common name for the ipmUserService	john doe@nortelnetworks.com
description	Directory String	CaseIgnoreString	No	The description list the device vendor, device model, the device version...	e.g.(Qualcomm QCP-2700)
deviceType	Directory String	CaseIgnoreString	No	There are two device types, devices used by a mobile subscriber to access the network and devices that are logically the user, e.g, mobile routers	e.g.(notebook, mobile)

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FIG. 6G

Name	Type	MatchingRule	Multi-Valued	Purpose	Example
cn	Directory String	CaseignoreString	No	The common name for the ipmUserProfile objectclass	bob@nortelworks.com
description	Directory String	CaseignoreString	No	List all the information about the ipmUserProfile objectclass	e.g.(home, office)
ipmUserDeviceRef	DN	CaseignoreString	No	The reference for ipmUserDevice	DN: "uid=JohnJoe, ou=ipmUserDevice, ou=ipm Management, o=nortelnetworks"
ipmClassOfServiceRef	DN	CaseignoreString	No	The reference for ipmClassOfService	DN: "uid=JohnJoe, ou=ipmClassOfService, ou=ipm Management, o=nortelnetworks"

FIG. 6H

Name	Type	MatchingRule	Multi-Valued	Purpose	Example
cn	Directory String	CaseIgnoreString	No	The common name for the ipmClassOfService	bob@nortelworks.com
description	Directory String	CaseIgnoreString	No		e.g.(gold)
ipmLsfDomainRef	DN	DN	Yes	The reference for ipmLsfDomain	DN: "cn=ipmLsfDomain, ou=ipm Management, o=nortelnetworks"

FIG. 6I

Name	Type	MatchingRule	Multi-Valued	Purpose	Example
domainRealm	Directory String	CaseIgnoreString	No	Realm component of the IETF Network Access Identifier for the home network	John.Doe@ISPabe.com
ipmNsfSubnetRef	DN	DN	Yes	The reference of the NSFsubnet	DN: "cn=ipmNsfSubnet, ou=ipm Management, o=nortelnetworks"

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FIG. 6J

Name	Type	MatchingRule	Multi-Valued	Purpose	Example
cn	Directory String	CaseIgnoreString	No	The common name for the ipmClassOfService	ip10@nortelworks.com
description	Directory String	CaseIgnoreString	No	The description for the ipmLsfSubnet	
subnetMask	Directory String	CaseIgnoreString	No	32 bit value help the devices understand the limits or boundaries of the network and subnet	255.255.255.0
subnetAddress	Directory String	CaseIgnoreString	No	The IP address of the LSFsubnet	47.456.70.80

FIG. 6K

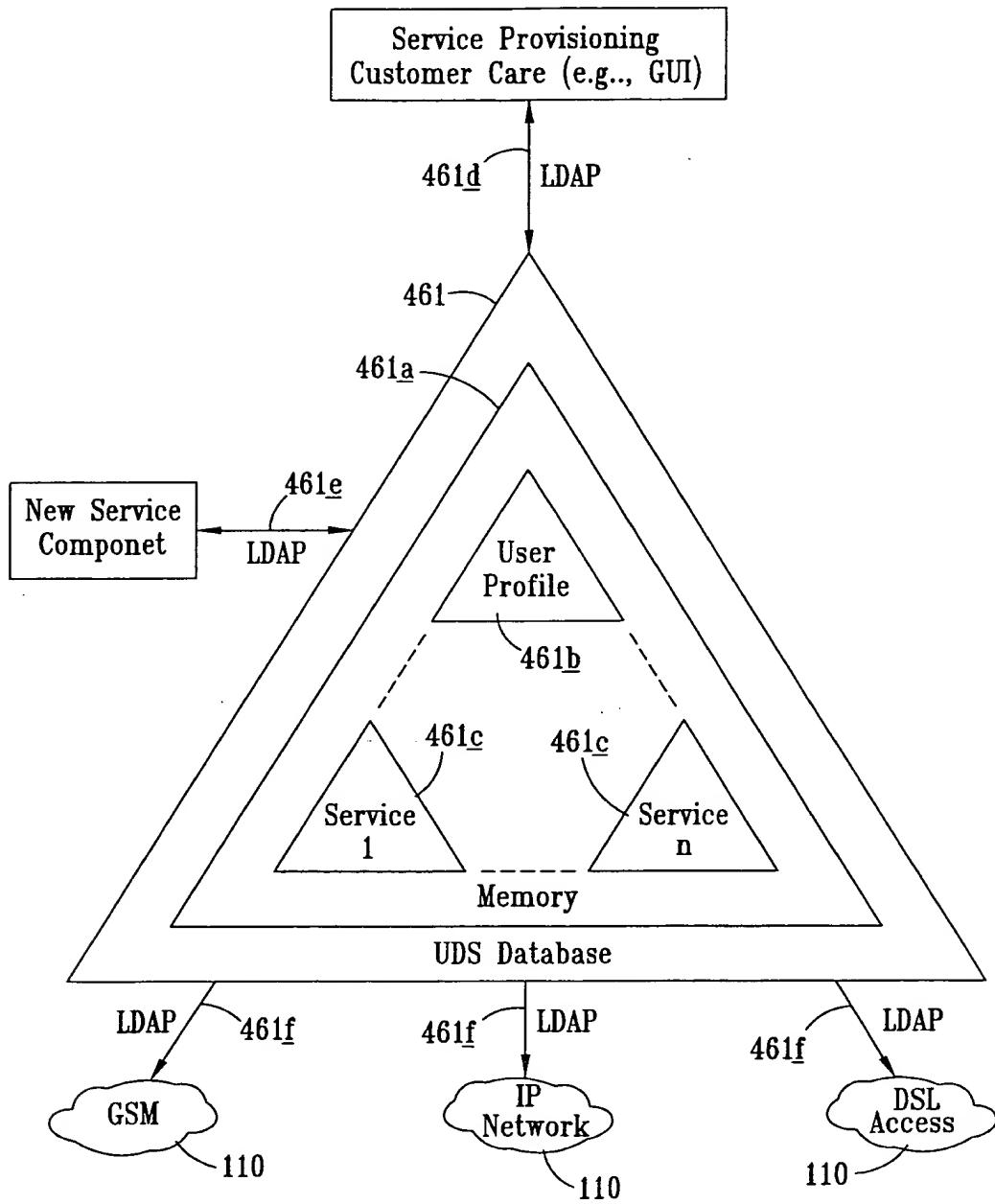
Name	Type	MatchingRule	Multi-Valued	Purpose	Example
cn	Directory String	CaseIgnoreString	No	The common name for the ipmClassOfService	ip10@nortelworks.com
description	Directory String	CaseIgnoreString	No	The description for the ipmNsfSubnet	
subnetMask	Directory String	CaseIgnoreString	No	32 bit value help the devices understand the limits or boundaries of the network and subnet	255.255.255.0
subnetAddress	Directory String	CaseIgnoreString	No	The IP address of the NSFsubnet	47.456.70.80

FIG. 6L

Name	Type	MatchingRule	Multi-Valued	Purpose	Example
domainRealm	Directory String	CaseIgnoreString	No	Realm component of the IETF Network Access Identifier for the home network	John.Doe@ISPabc.com
ipmLsfSubnetRef	DN	DN	Yes	The reference of the Lsfsubnet	DN: "cn=ipmLsfSubnet, ou=ipm Management, o=nortelnetworks"

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FIG. 6M



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FIG. 7

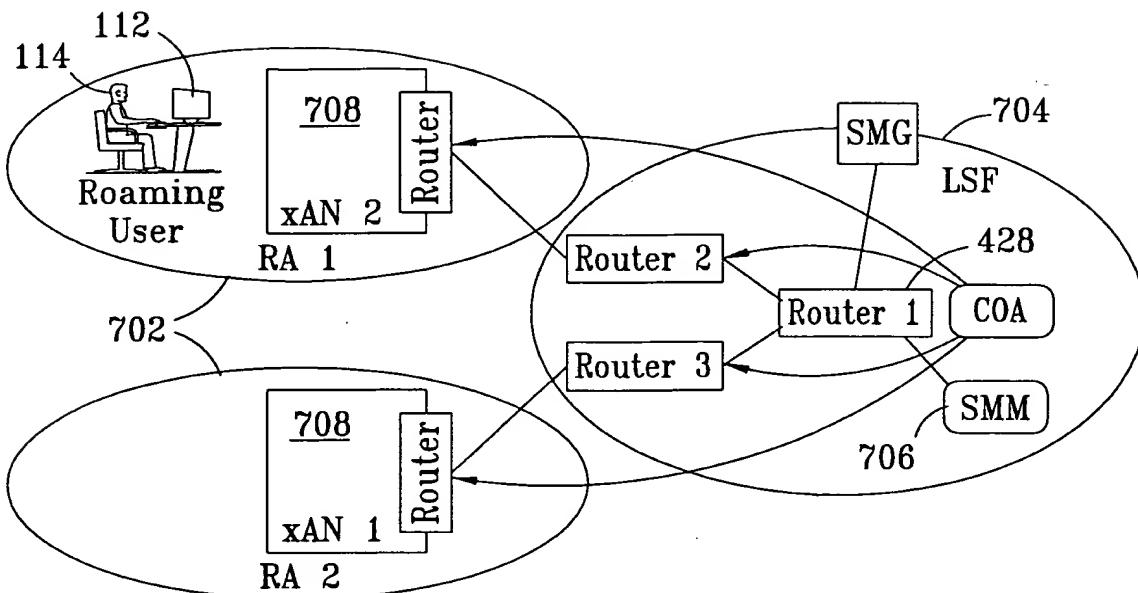
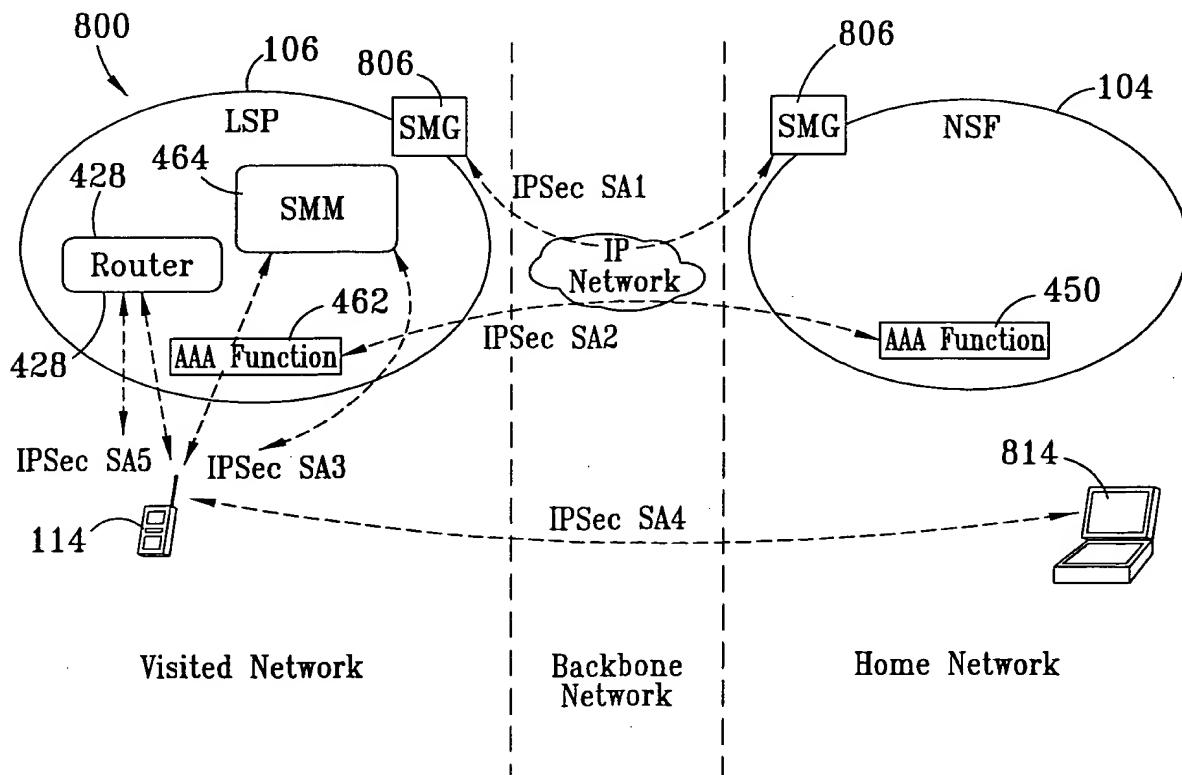


FIG. 8



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FIG. 9

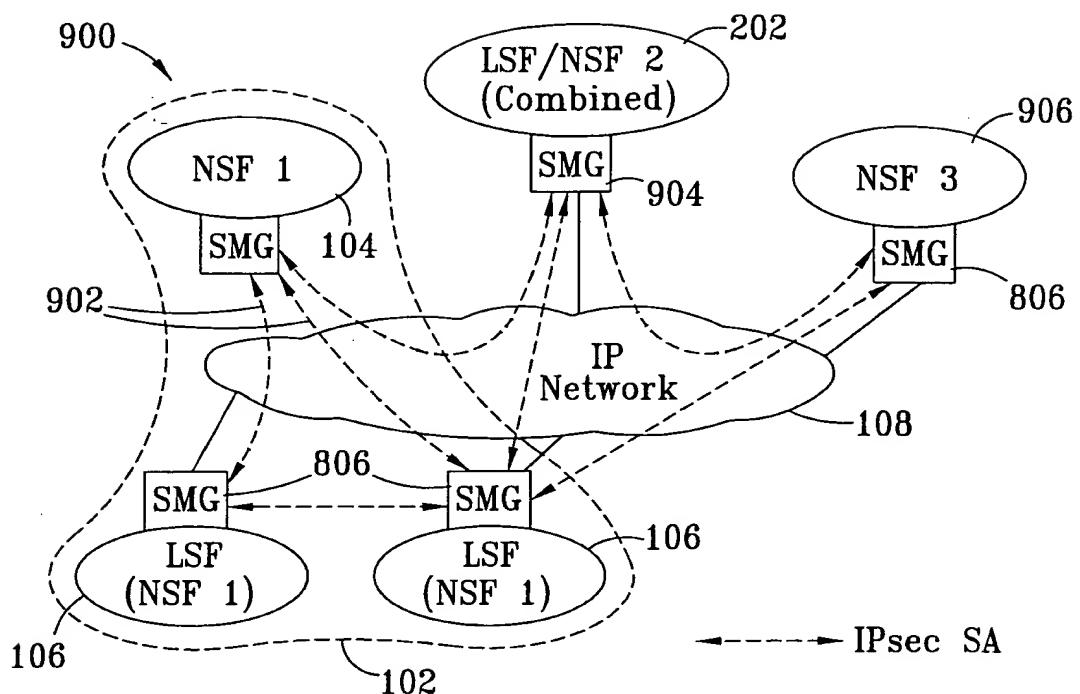


FIG. 10

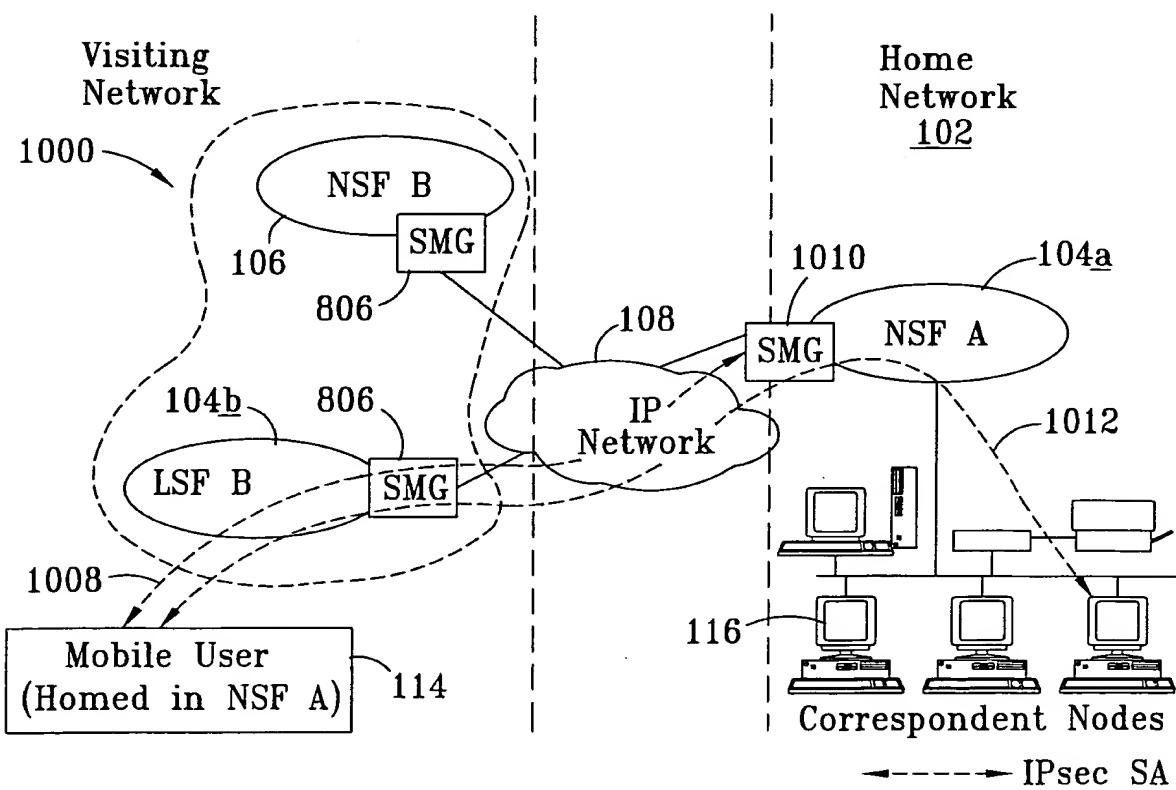


FIG. 11

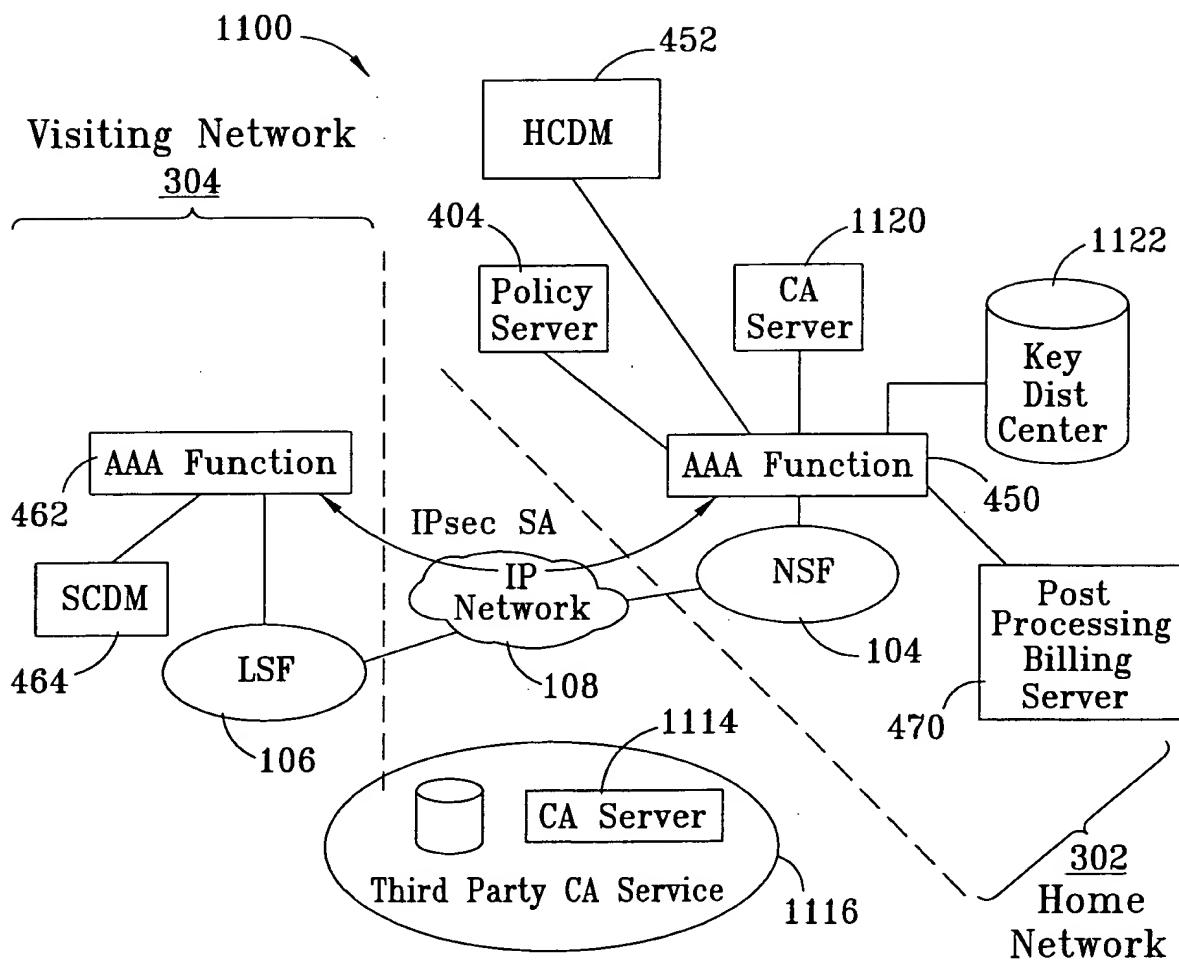
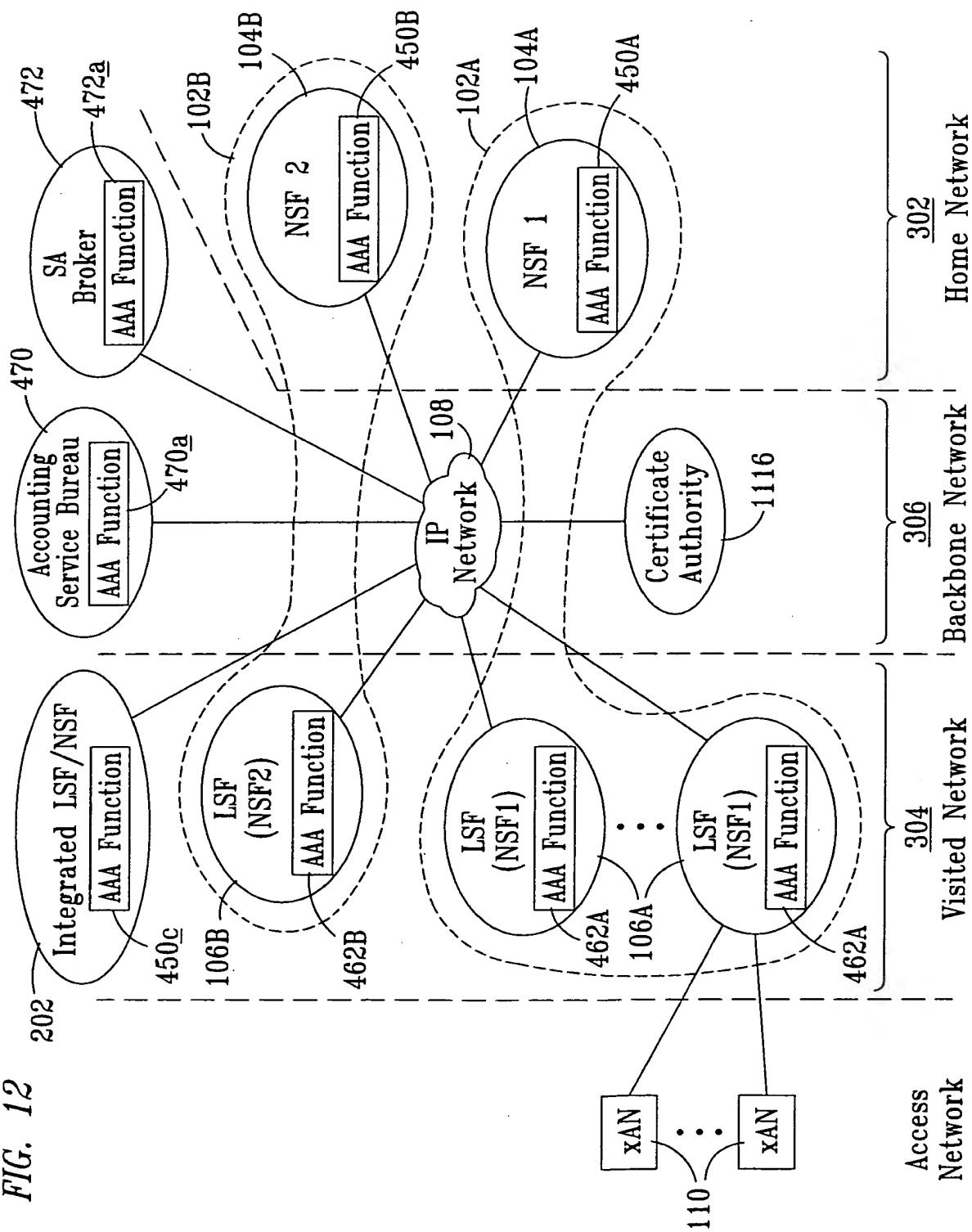
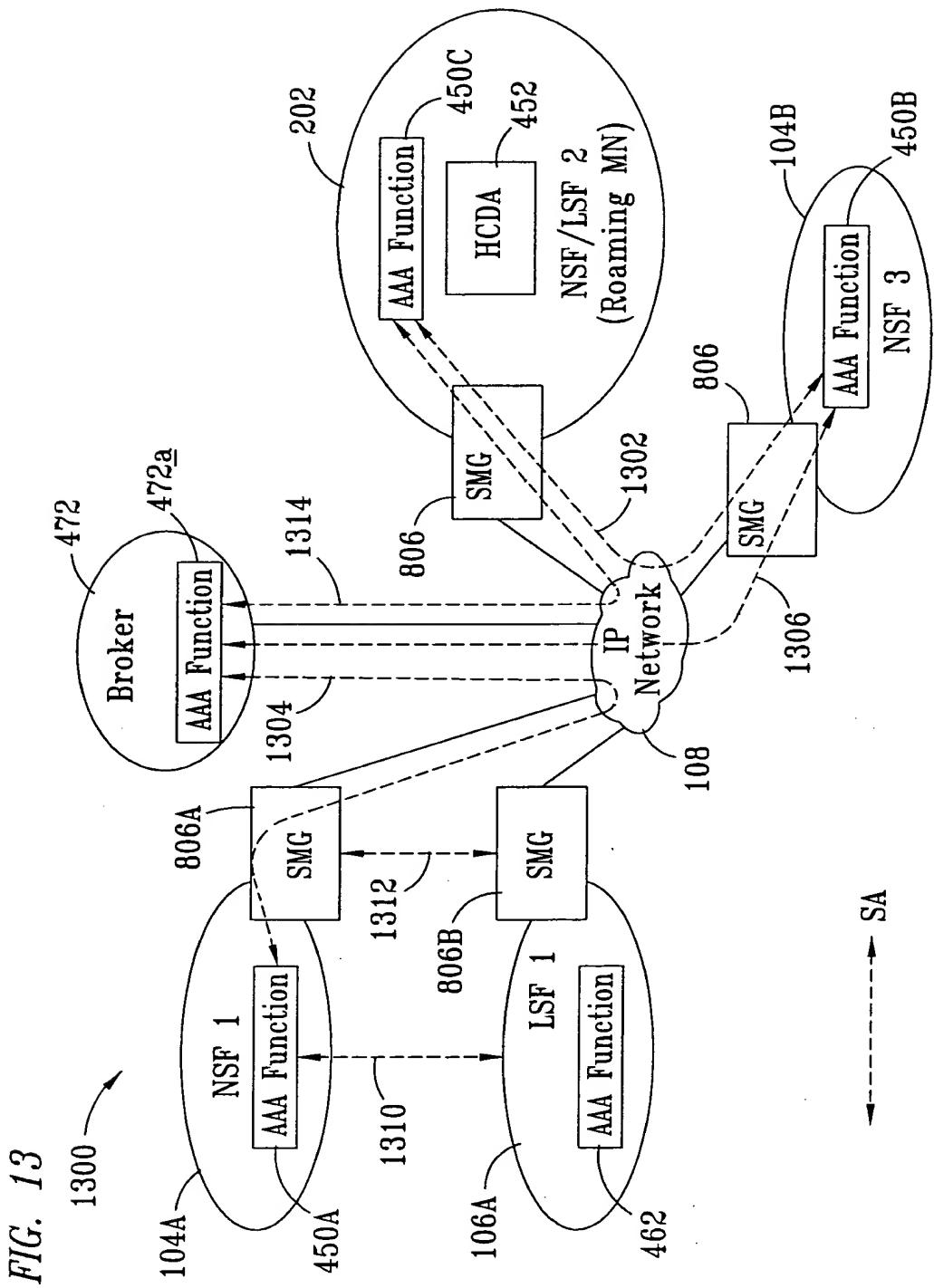
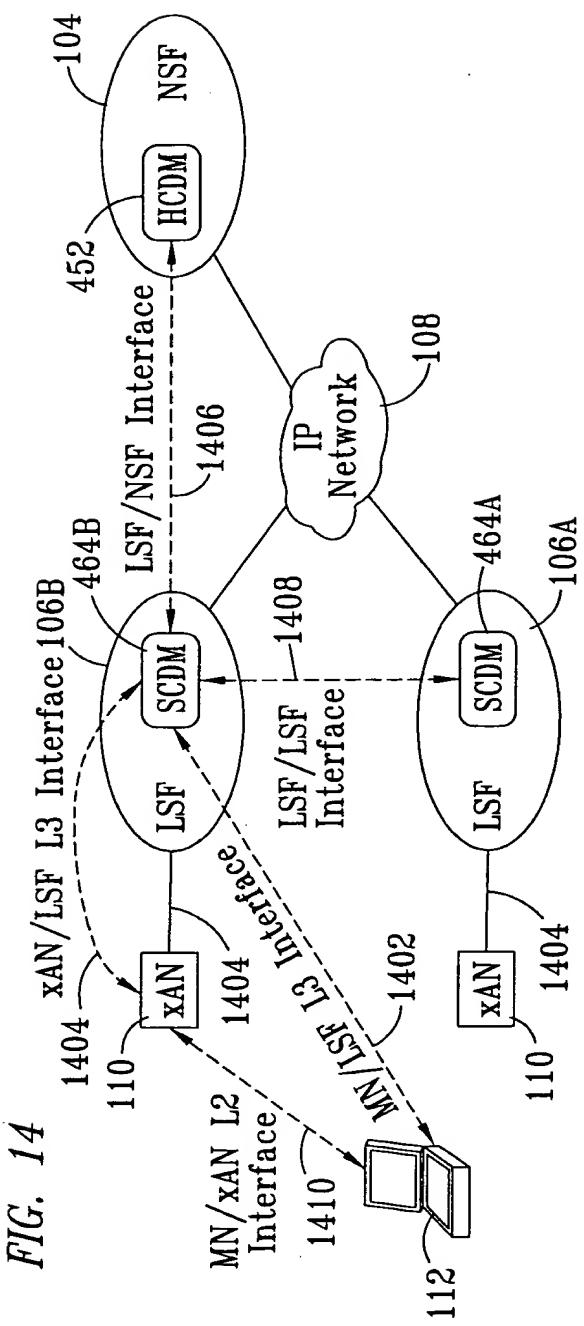


FIG. 12







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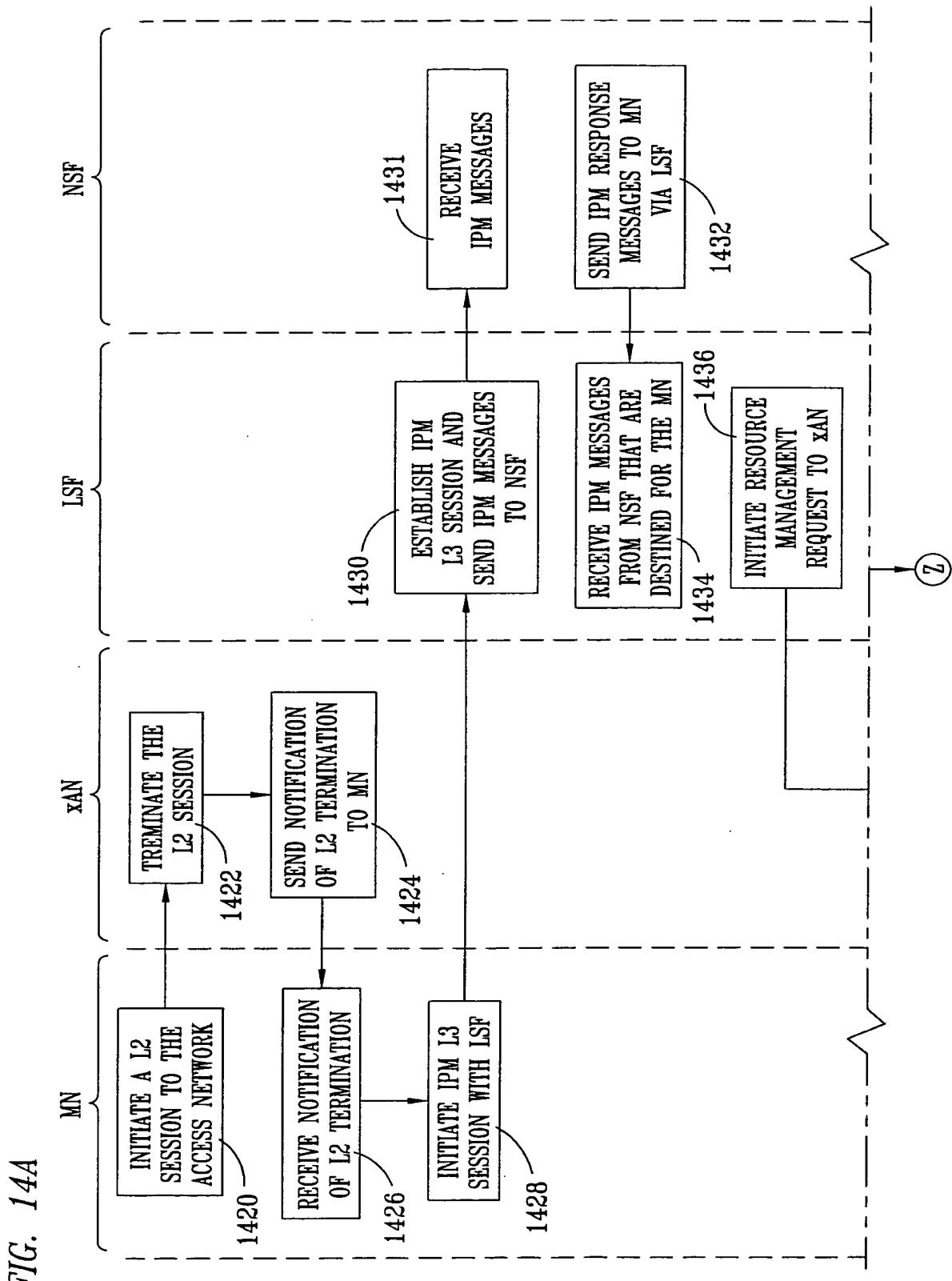
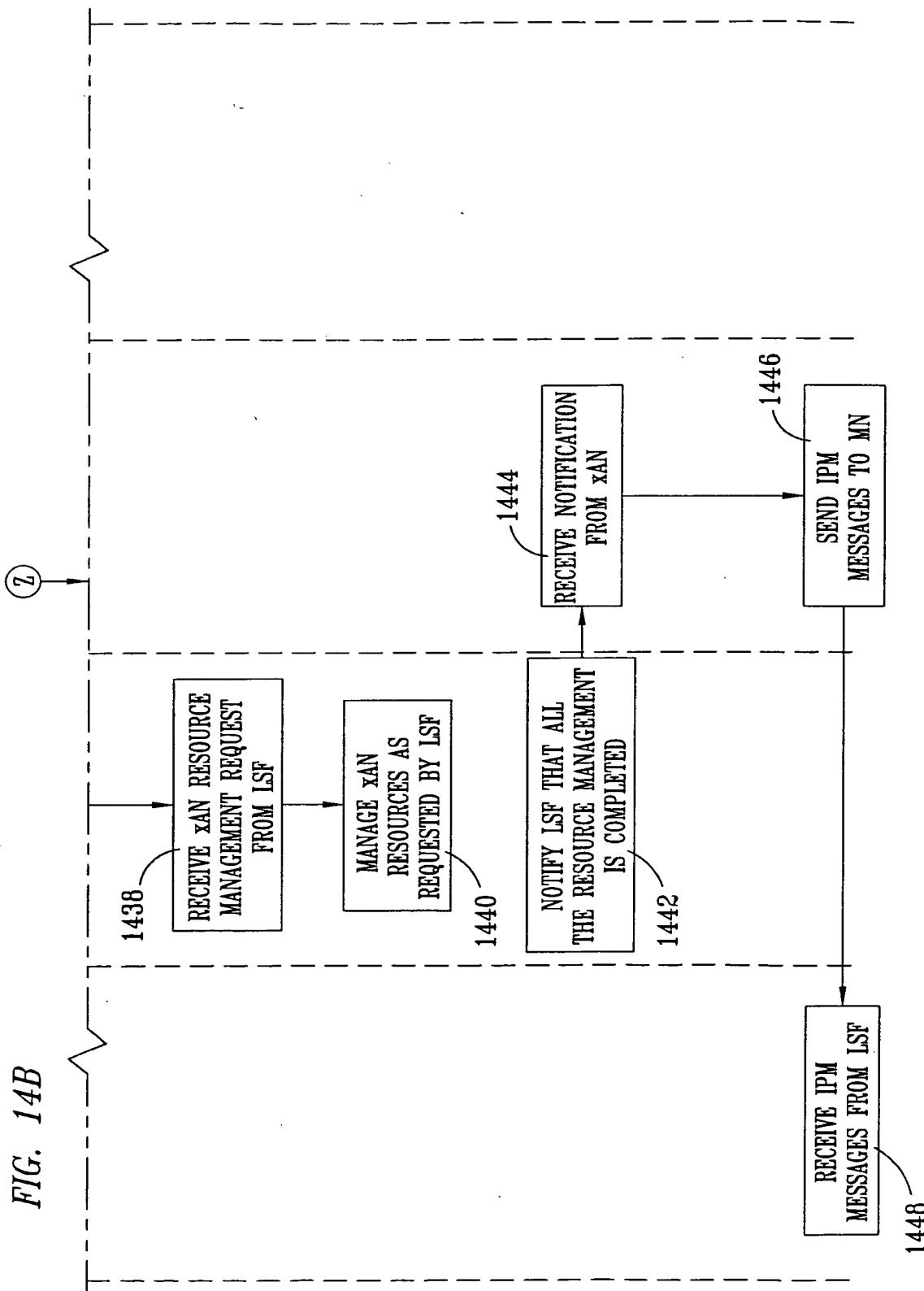
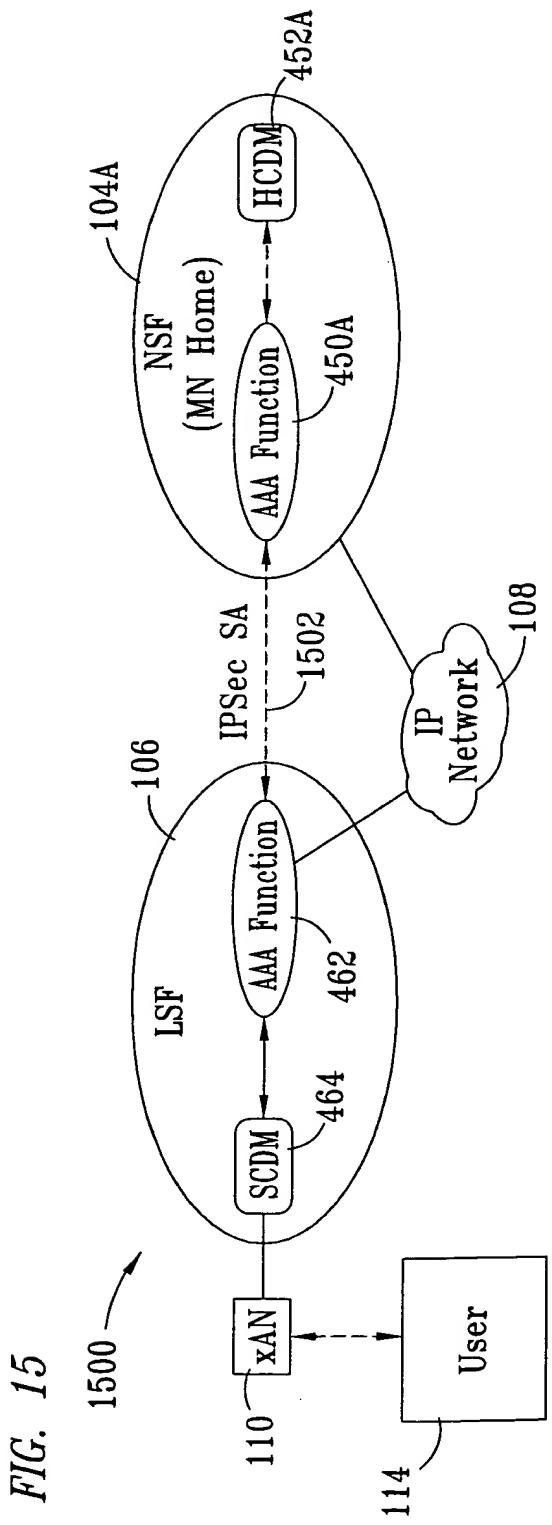


FIG. 14B





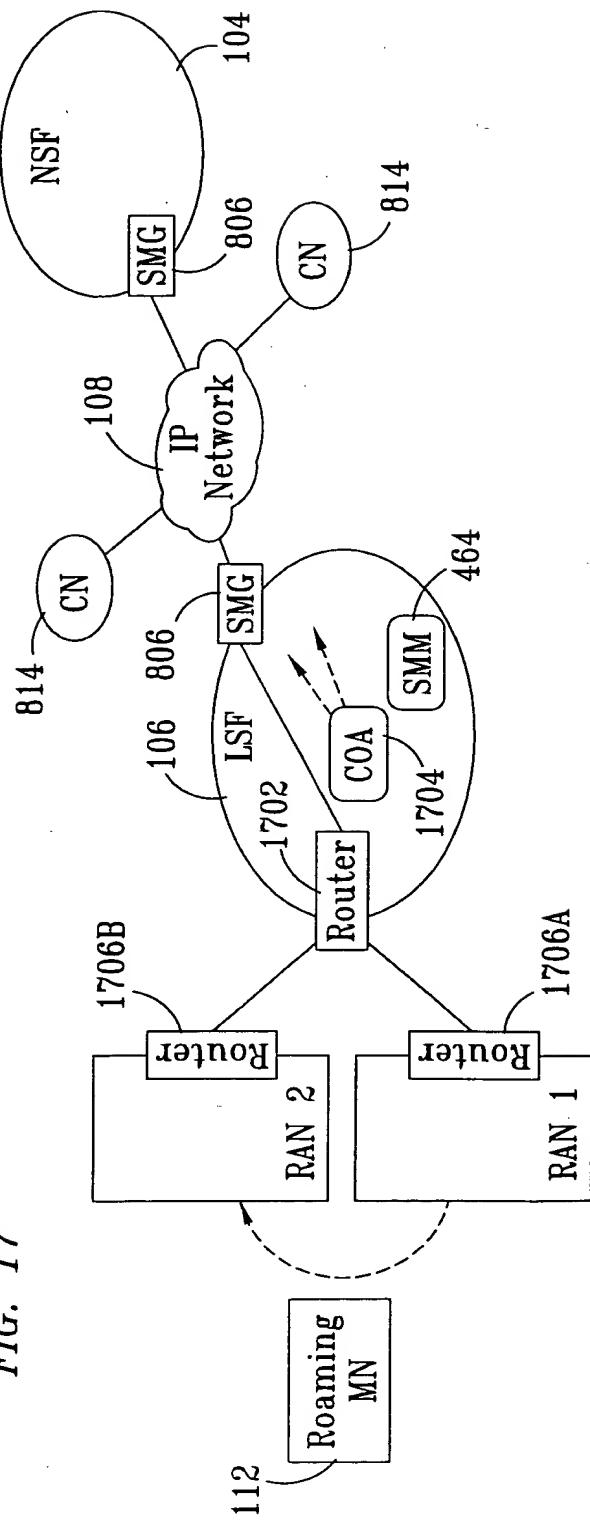
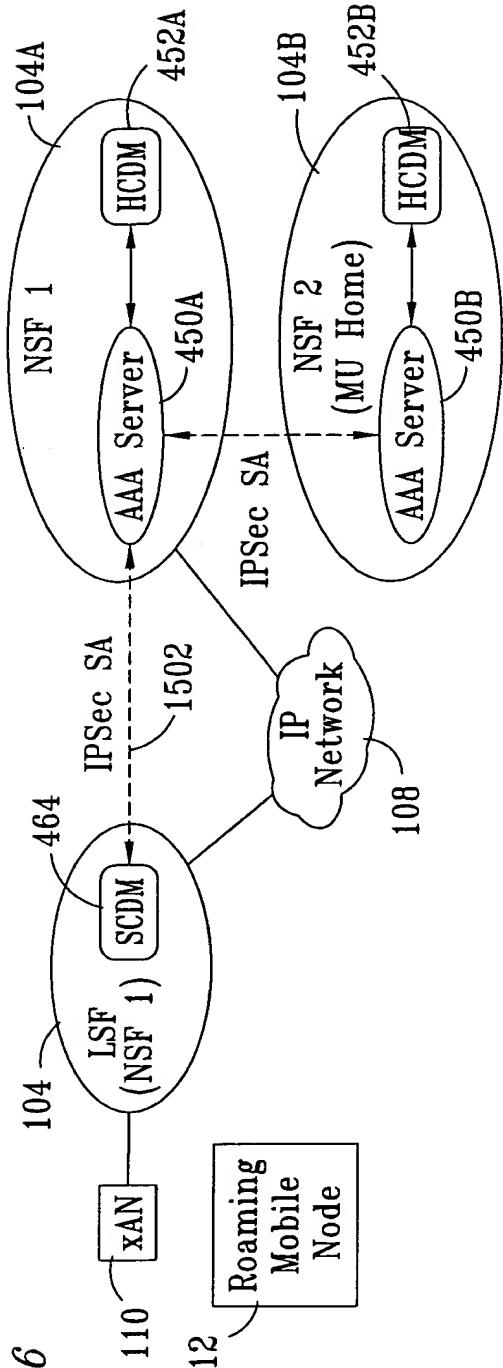


FIG. 18

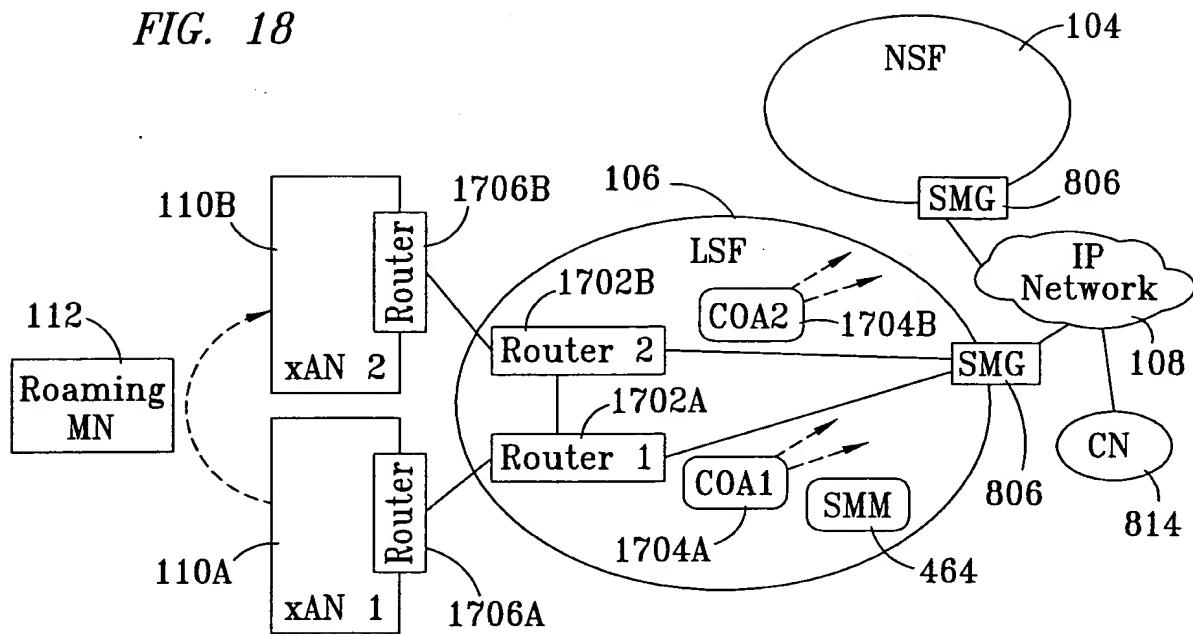


FIG. 19

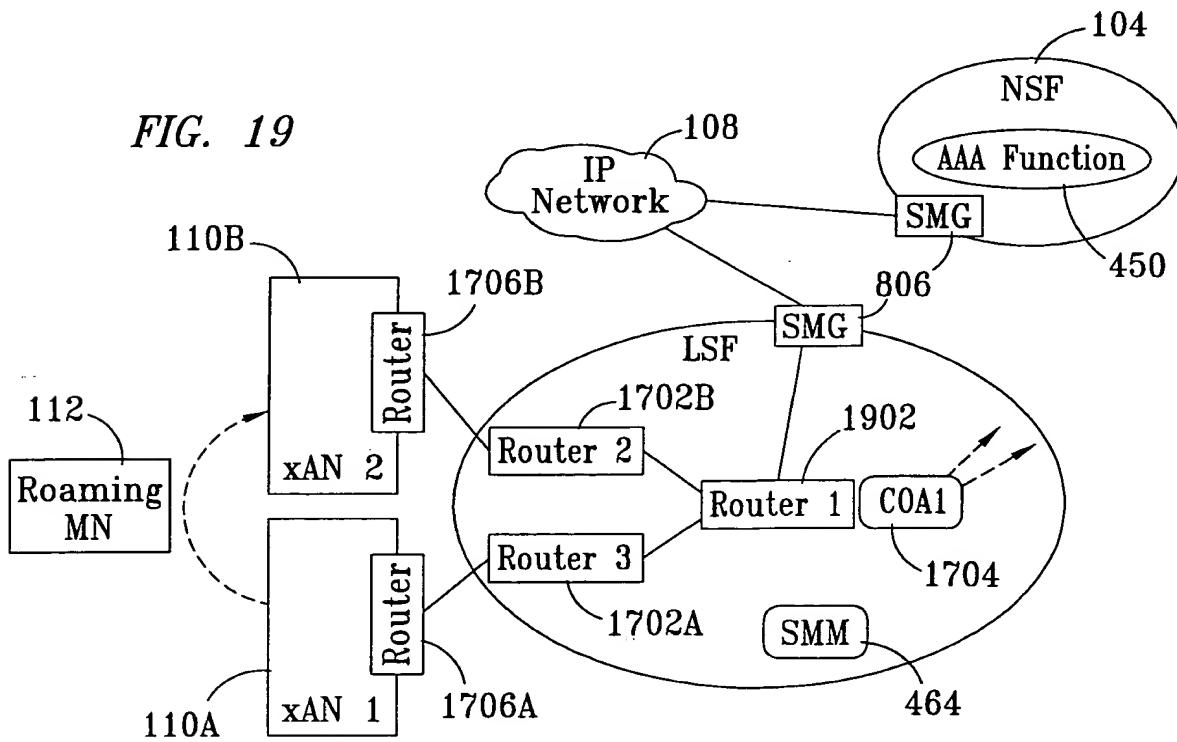


FIG. 20

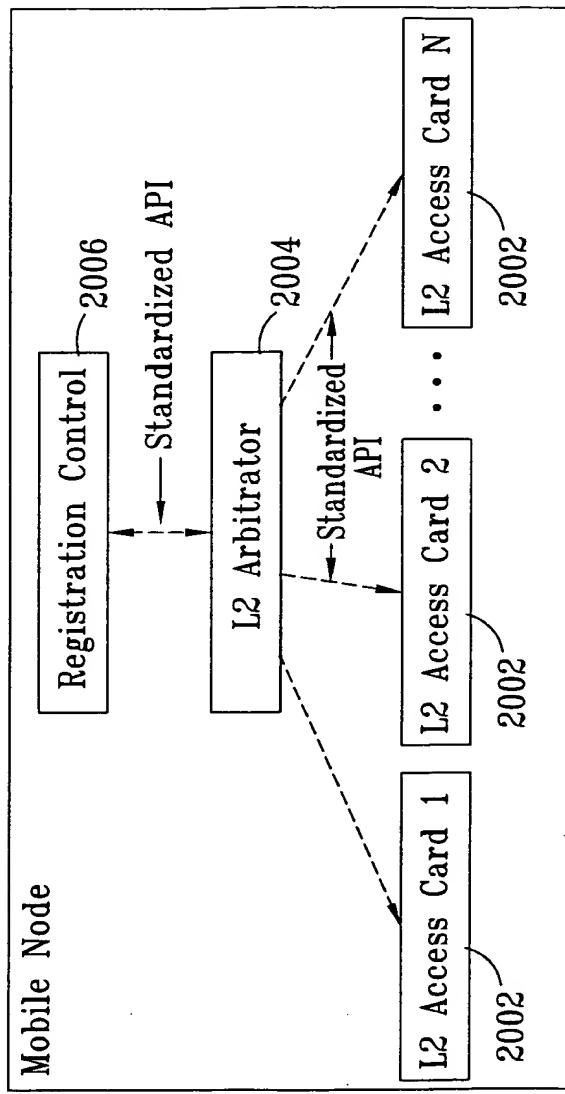


FIG. 20A

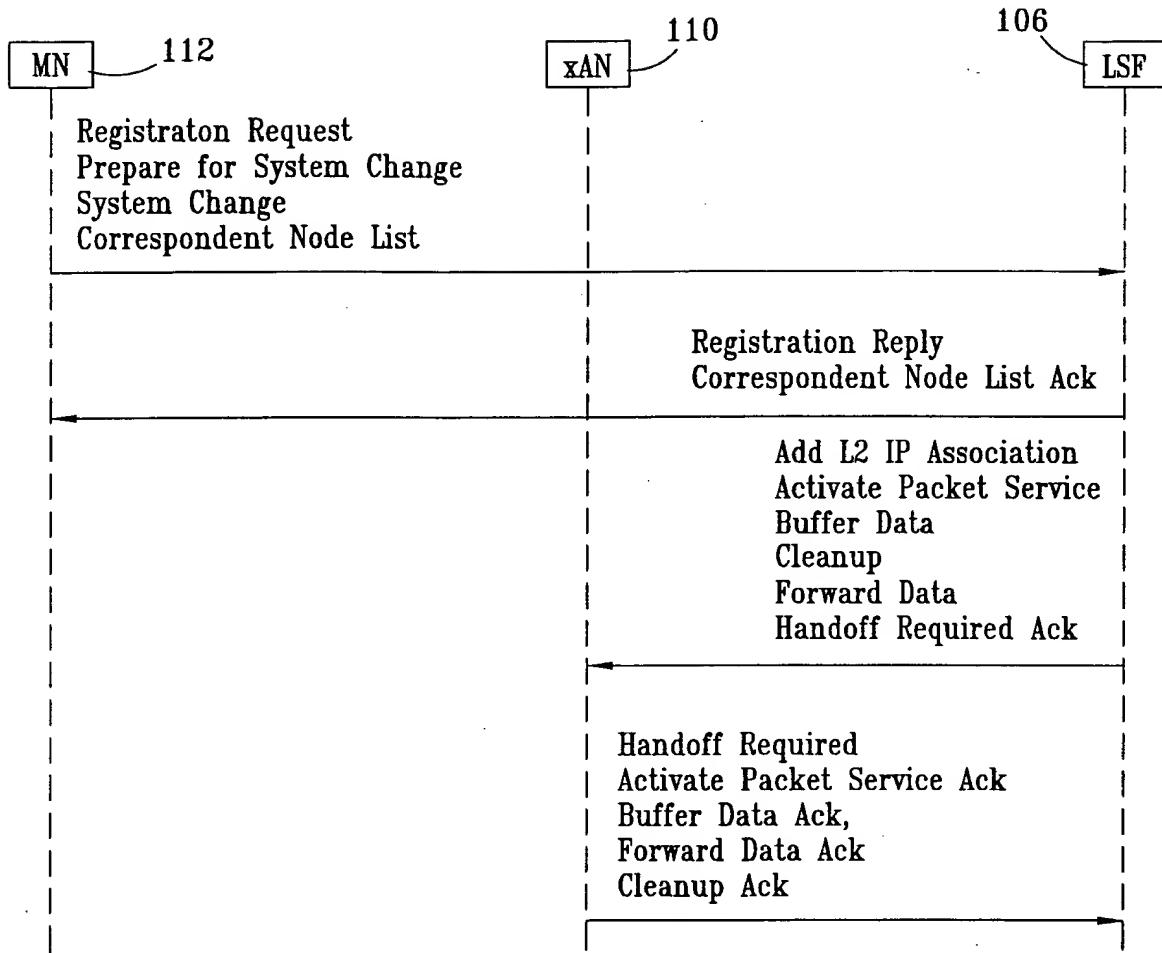


FIG. 20B

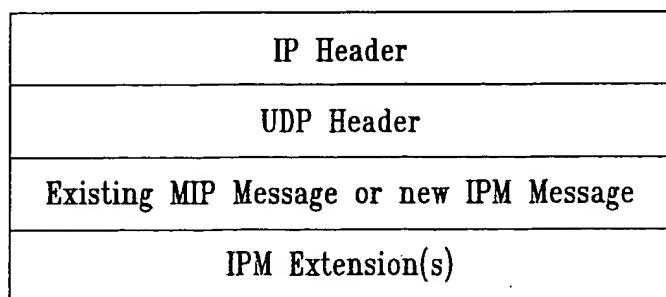


Fig. 20C

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type	Length (n/4+1)	Data.....	
..	Data.....	.....	.....
n	Data.....	.....	.....

Fig. 20D

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 9	Length (n-2)	Digital Signature.....	
..	
n	.....	.....	.....	Digital Signature

Fig. 20E

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 10	Length (n-2)		Reserved
..	<User NAI 1+ User IP Address 1+ Service Definition for User>++ <User NAI 2+ User IP Address 2+ Service Definition for User>++.....			
n	.....	.....	<User NAI n+ User IP Address n+ Service Definition for User>	

Fig. 20F

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 11	Length (n-2)	<CN 1 IP Address> + <CN 2 IP Address>+.....	
..	
n	.....	.....	.....	<CN n IP Address>

FIG. 20G

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 12	Length (n-2)	LSF NAI.....	
..	
n	.....	.....	.....	.....LSF NAI

FIG. 20H

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 13	Length	MN L2 Address.....	
..	
n	.....	.....	.....	.....MN L2 Address

FIG. 20I

Byte	0	1	2	3
0ff-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 14	Length	NAI.....	
..	
n			.....NAI	

FIG. 20J

Byte	0	1	2	3
0ff-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 15	Length (n+4)	Routing Area NAI.....	
..	
n	.....	.....	.....Routing Area NAI	

FIG. 20K

Byte	0	1	2	3
0ff-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 16	Length (n-2)	<Protocol Name 1> + <Protocol Name 2> +	
..	
n	.....	.....	.....	<Protocol Name n>

FIG. 20L

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1	Type = 01	S B D M G V Rsv	Lifetime
0				Home Address
4				Home Agent
8				Care-of Address
12				Identification
16				
20				Extensions
24+			

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FIG. 20M

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 03	Code	Lifetime	
4			Home Address	
8			Home Agent	
12			Identification	
16				
20+			Extensions	.....

FIG. 20N

Byte	0	1	2	3
0ff-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 30	S B D M G V Rsv		Lifetime
4			Home Address	
8			Home Agent	
12			Care-of Address	
16			Identification	
20				
24+			Extensions	.....

FIG. 200

Byte	0	1	2	3
Offset	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 31	S B D M G V	Rsv	Lifetime
4				Home Address
8				Home Agent
12				Care-of Address
16				Identification
20				
24+				Extensions

FIG. 20P

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type	Length (n/4+1)	Data.....	
..	Data.....		.....
n	Data.....		.....

FIG. 20Q

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 40	Length	Reserved	
4+		Extensions		.....

FIG. 20R

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 41	Length		Reserved
4+			Extensions	.....

FIG. 20S

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 40	Length		Reserved
4			User IP Address
8+			Extensions

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FIG. 20T

Byte	0	1	2	3
0ff-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 42	Length	Reserved	
4		User IP Address		

FIG. 20U

Byte	0	1	2	3
0ff-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 43	Length	Result Code	Reserved
4		User IP Address		

FIG. 20V

Byte	0	1	2	3
0ff-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 44	Length	Reserved	
4		User IP Address		

FIG. 20W

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 45	Length	Reserved	
4		User IP Address		

FIG. 20X

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 46	Length	Reserved	
4+		Extensions	.....

FIG. 20Y

Byte	0	1	2	3
0ff-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 47	Length	Reserved	
4		User NAI		

FIG. 20Z

Byte	0	1	2	3
0ff-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 48	Length	Reserved	
4		User's IP Address at the old LSF		
8		User's IP Address at the new LSF		
12		User's COA at the new LSF		

FIG. 20AA

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 49	Length	Reserved	
4	User IP Address at the old LSF			

FIG. 20AB

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 50	Length	Reserved	
4+	Extensions	.....	

FIG. 20AC

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 51	Length	Reserved	
4+		Extensions		

FIG. 20AD

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 30	Length	Reserved	
4		Access Request		

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FIG. 20AE

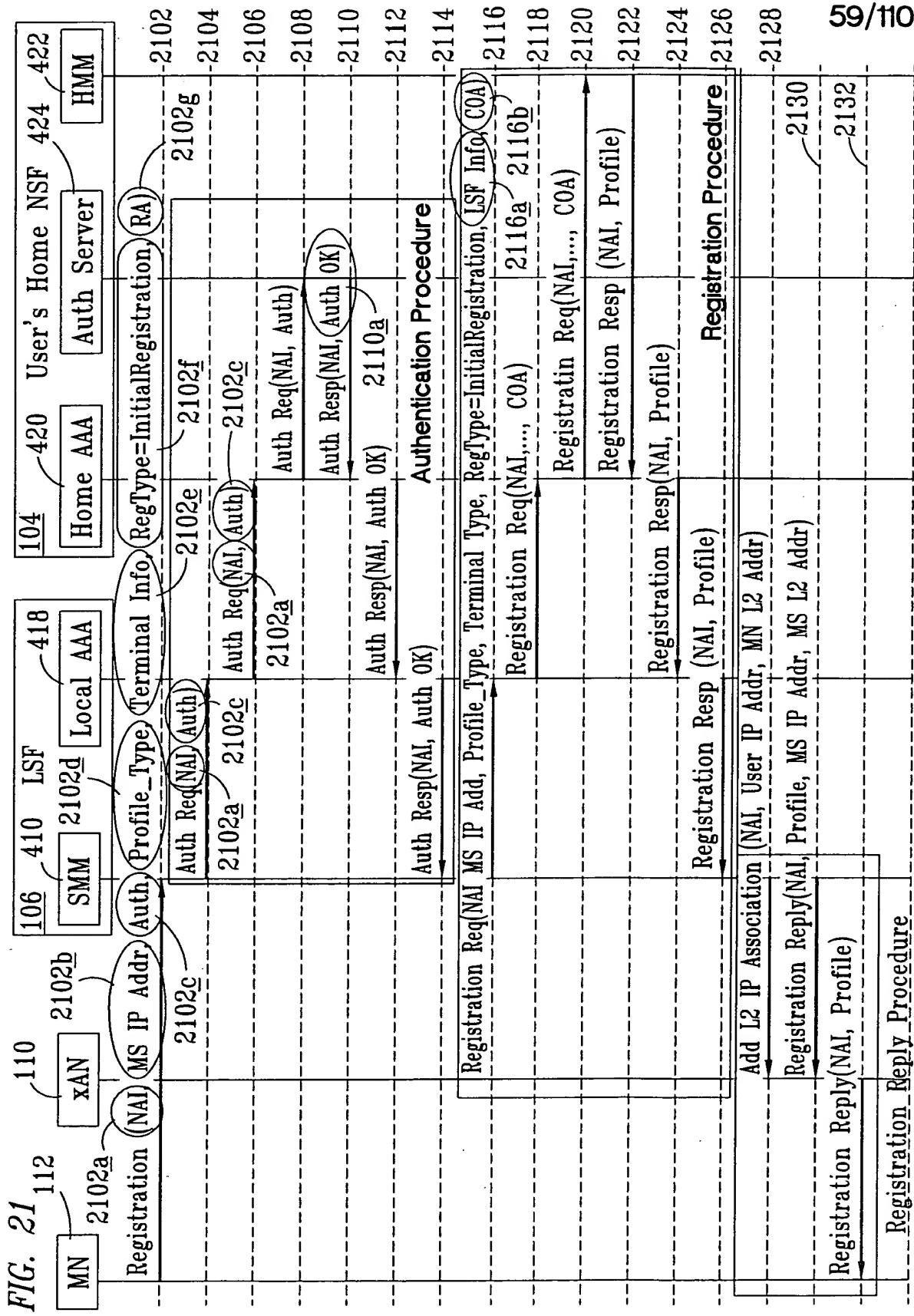
Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 31	Length	Reserved	
4		Access Accept/Reject		

FIG. 20AF

Byte	0	1	2	3
Offset	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 32	S B D M G V Rsv		Lifetime
4				Home Address
8				Home Agent
12				Care-of Address
16				Identification
20				
24+				Extensions

FIG. 20AG

Byte	0	1	2	3
Off-set	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1			
0	Type = 33	S B D M G V Rsv		Lifetime
4			Home Address	
8			Home Agent	
12			Identification	
16				
20+			Extensions	.....



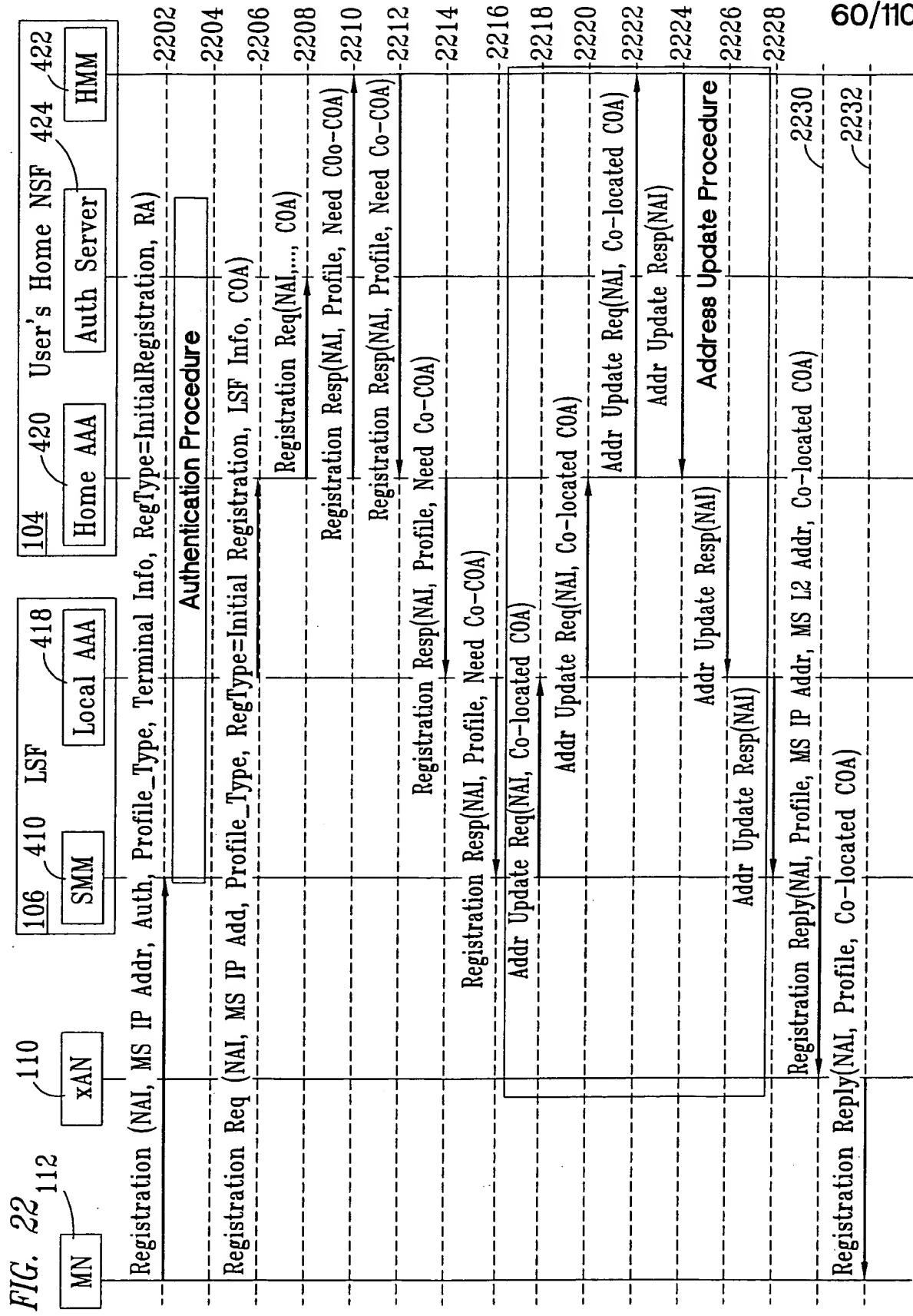


FIG. 23

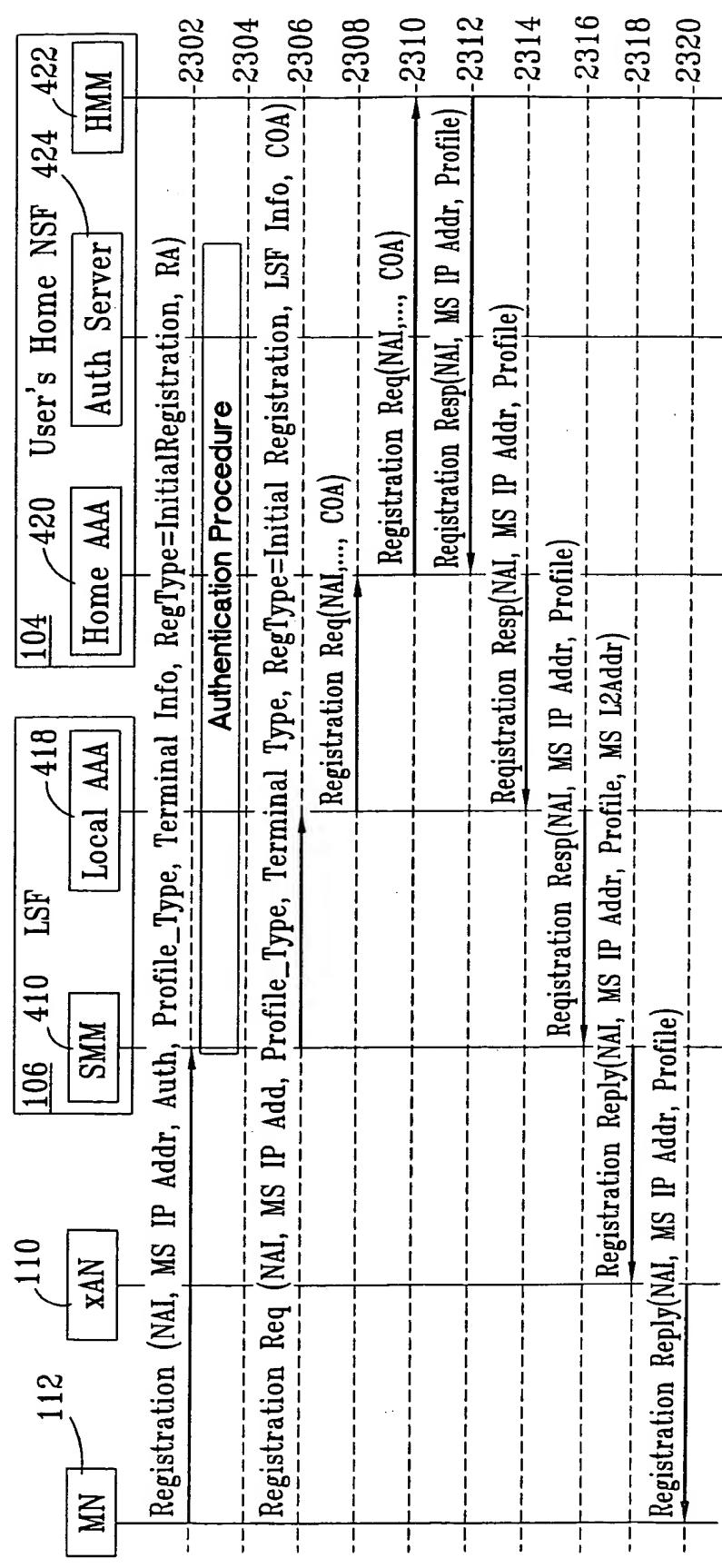


FIG. 24

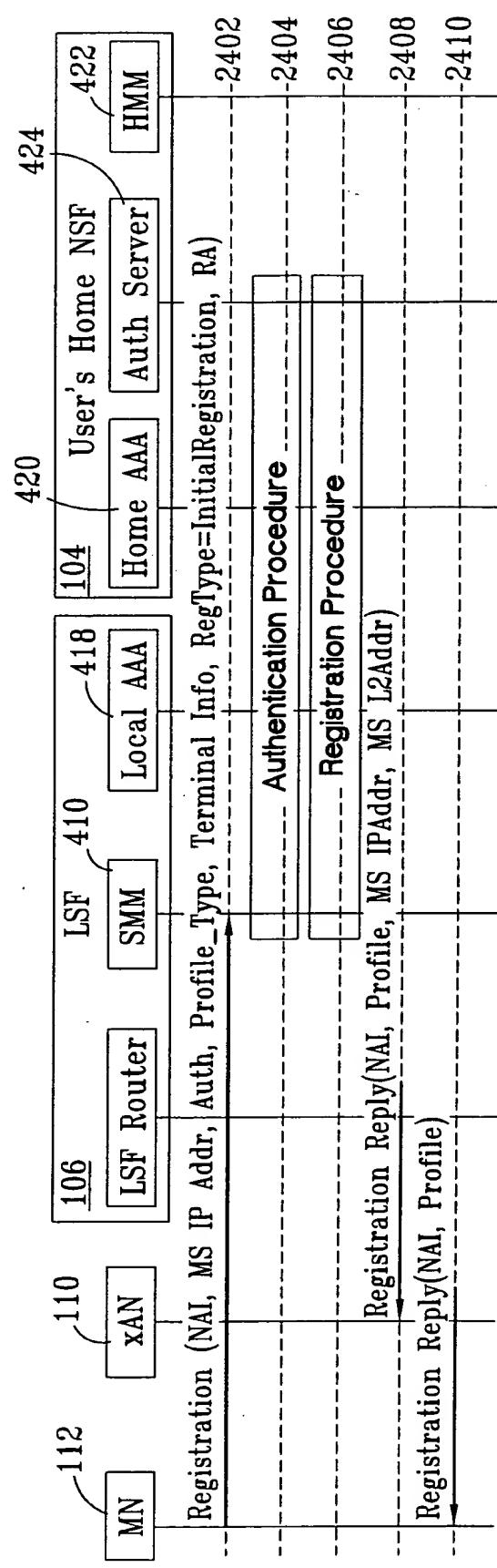


FIG. 25A

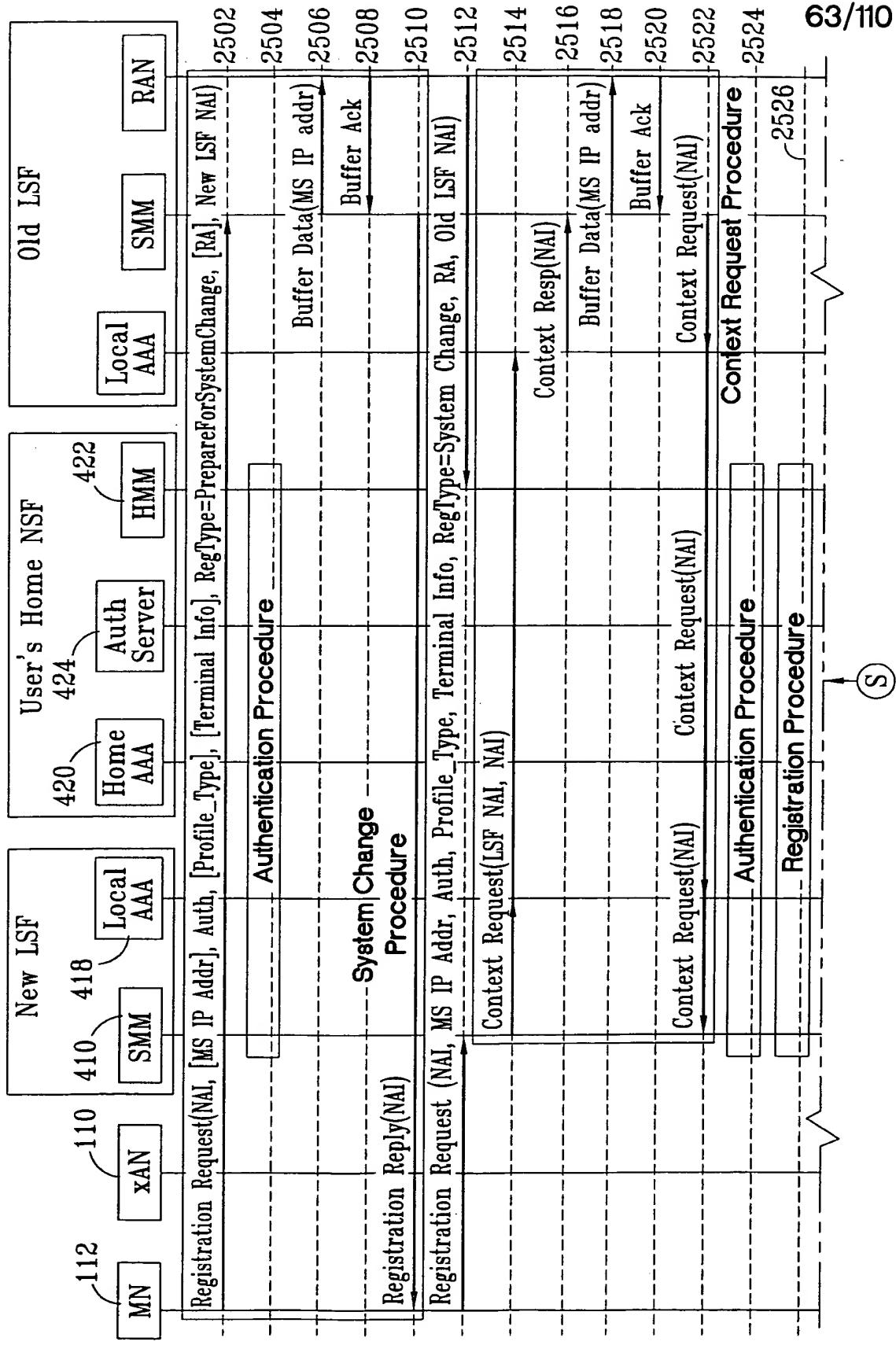


FIG. 25B

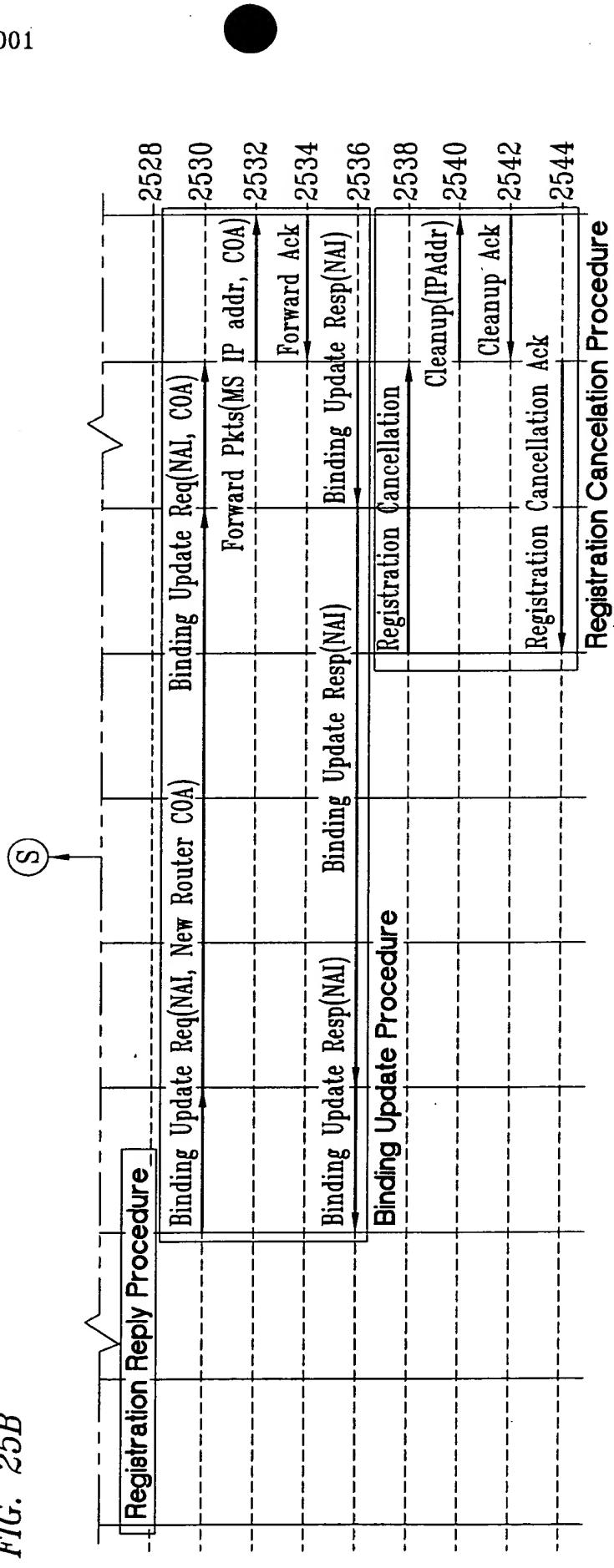


FIG. 26

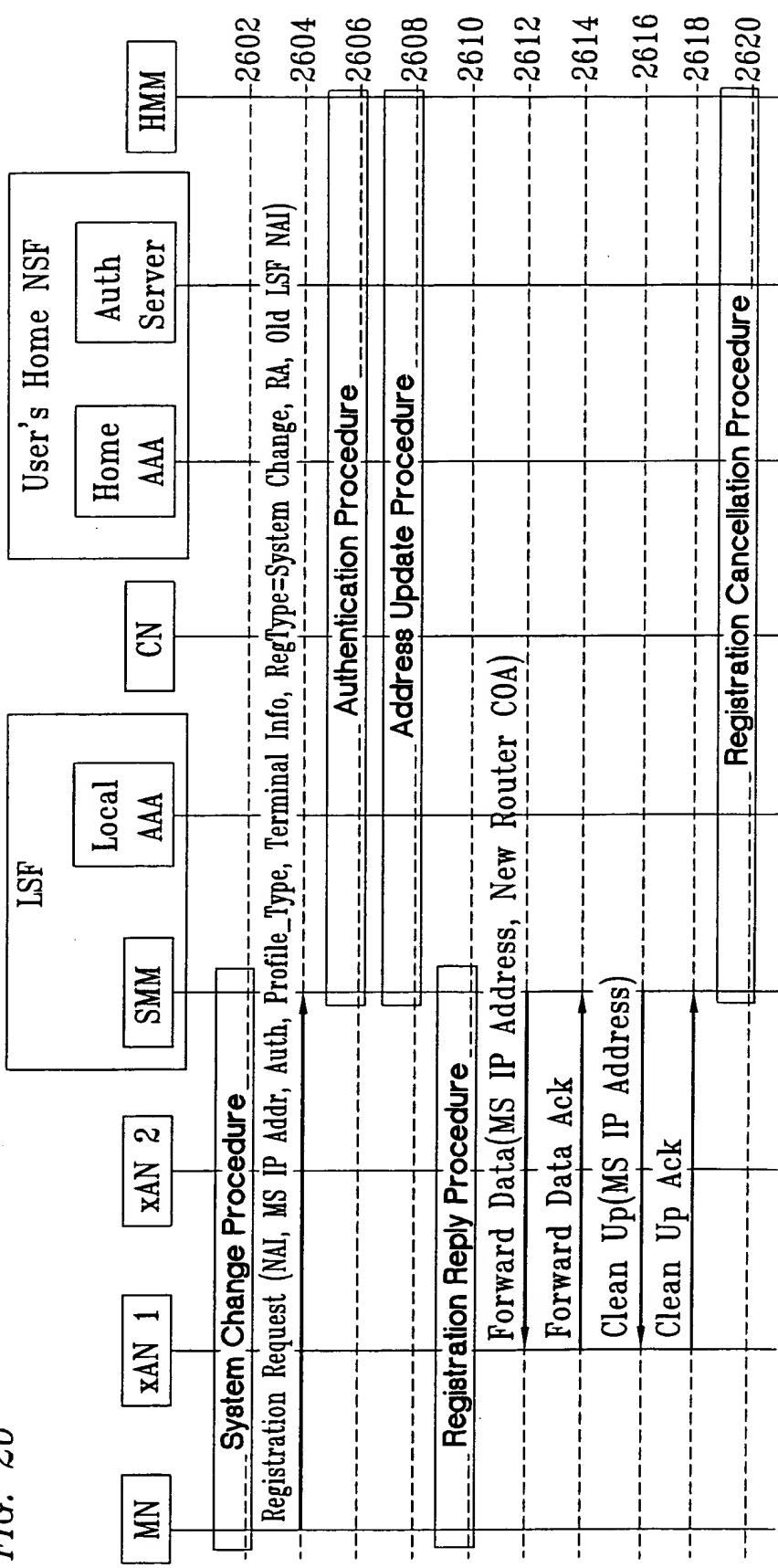
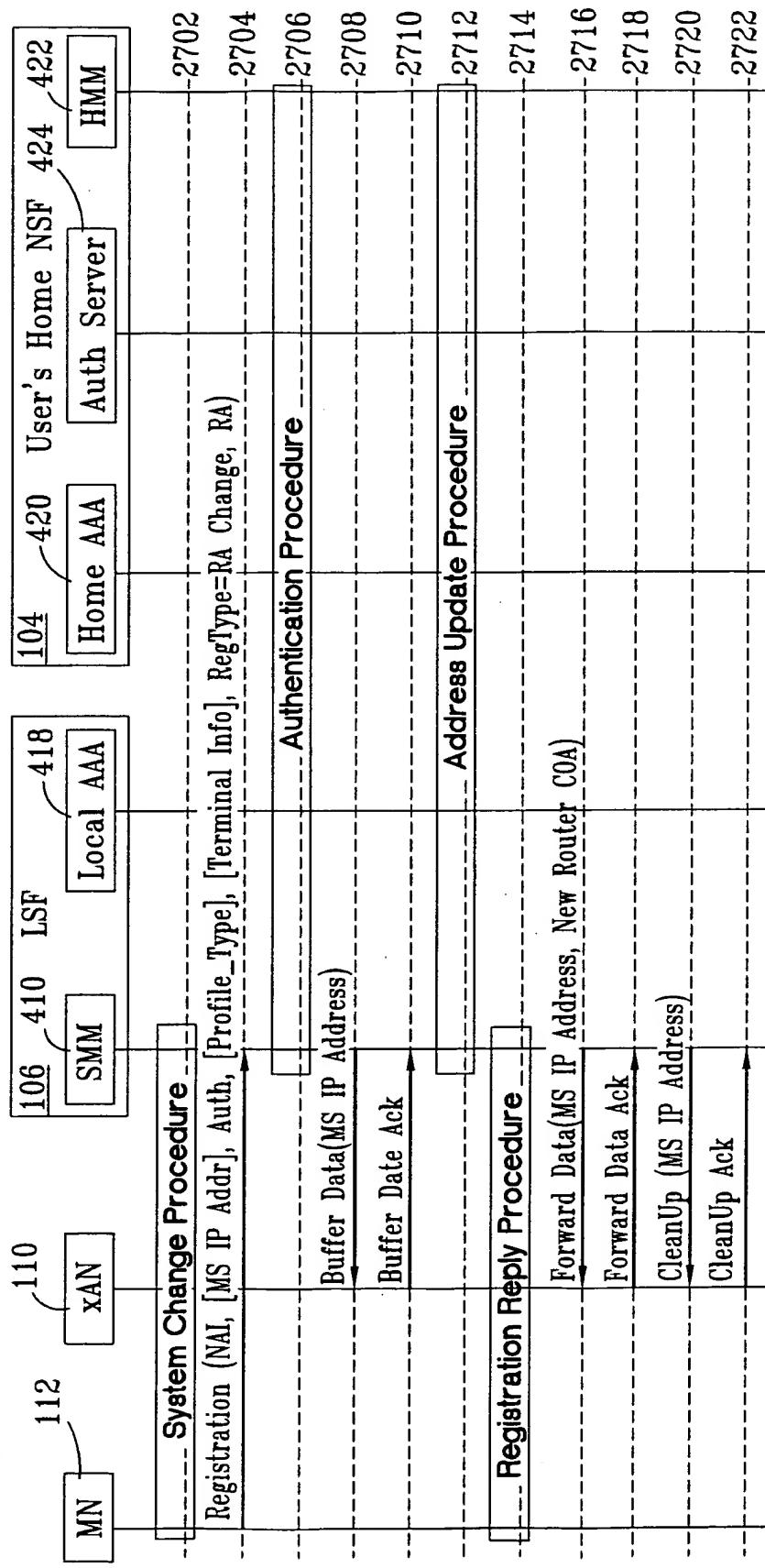


FIG. 27



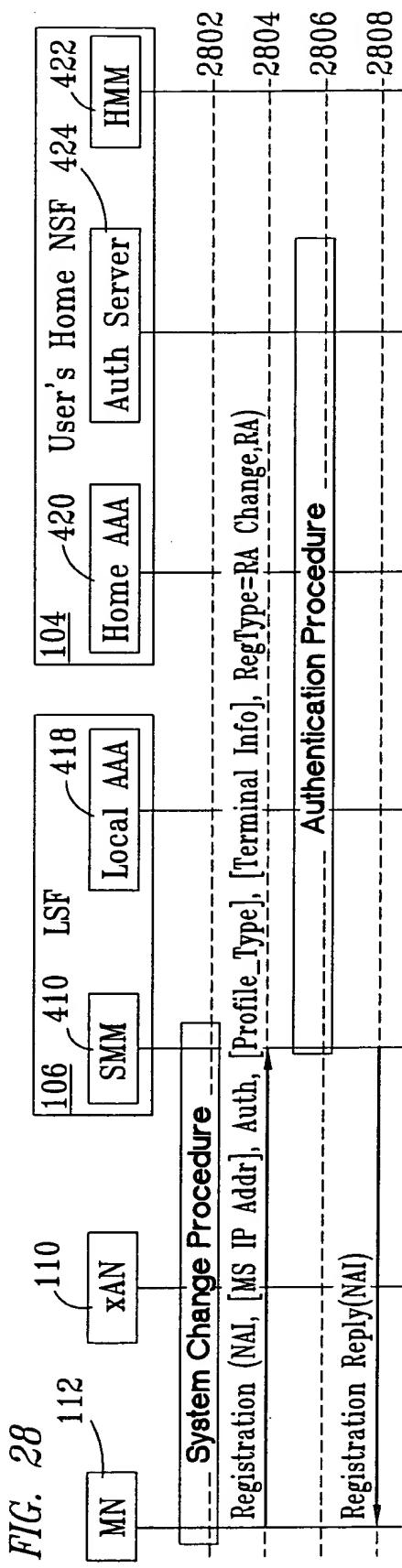


FIG. 29

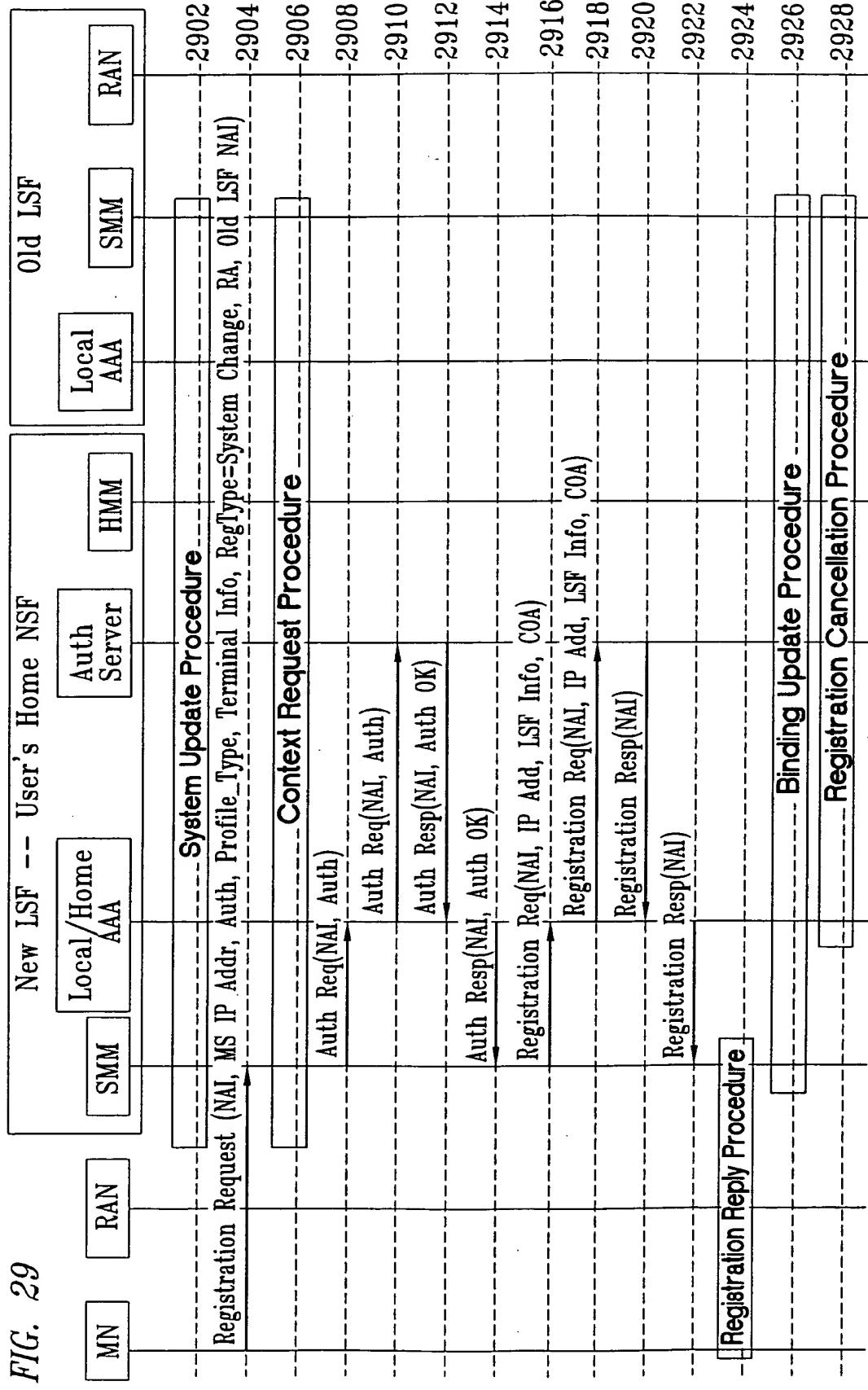


FIG. 30

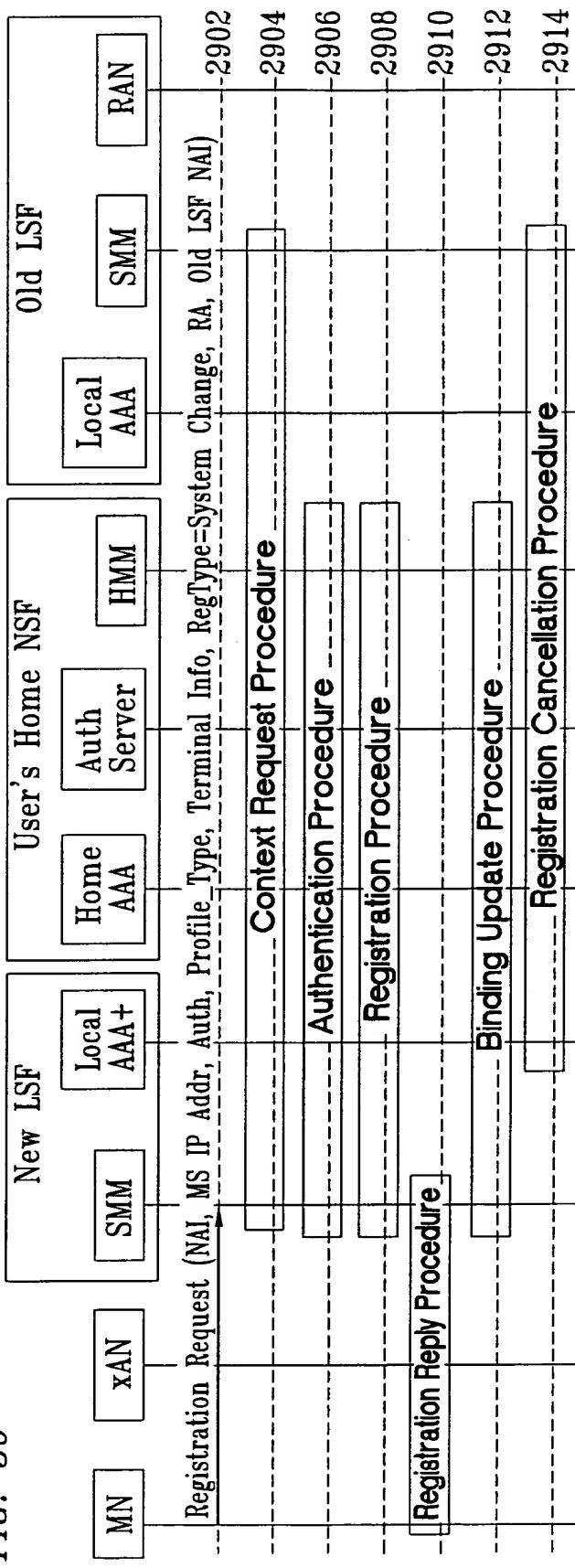


FIG. 31

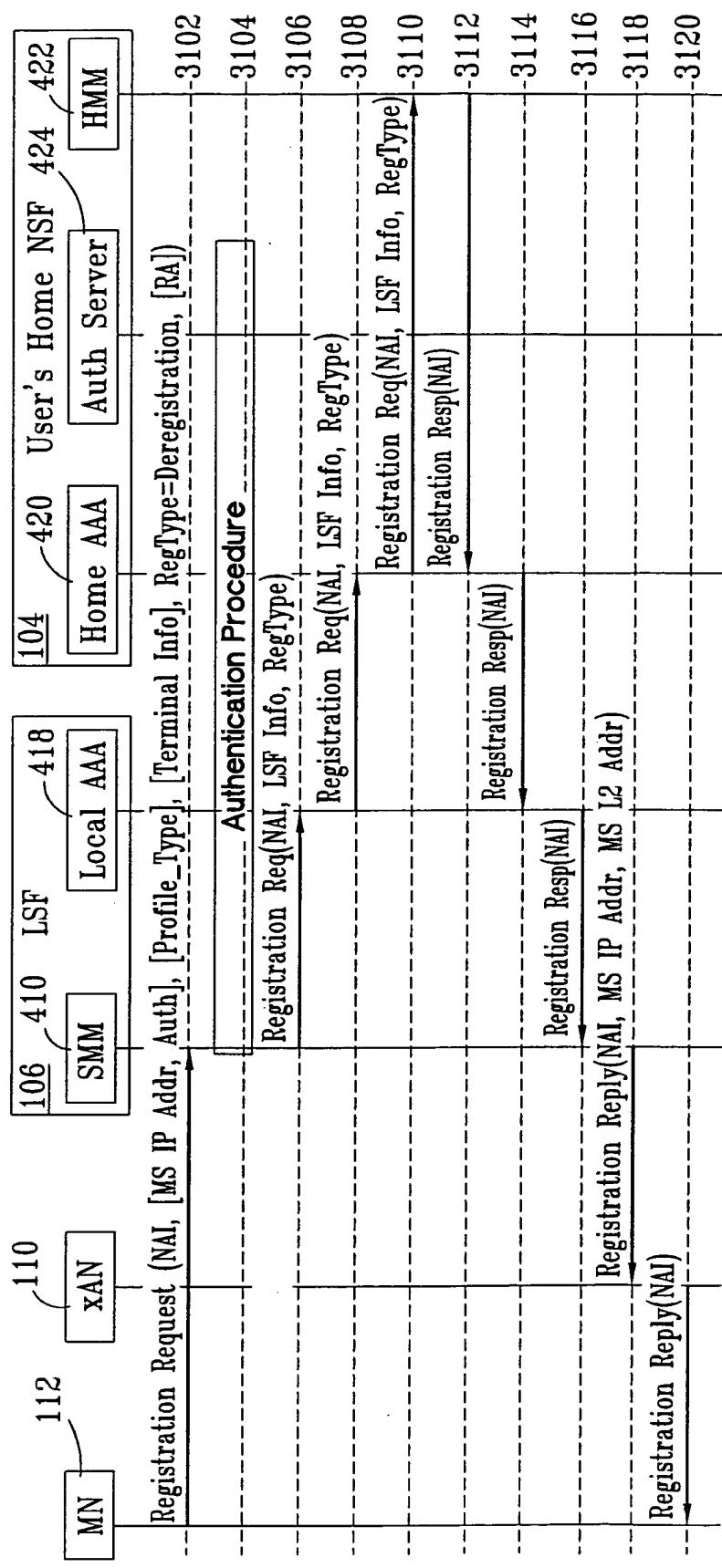


FIG. 32A

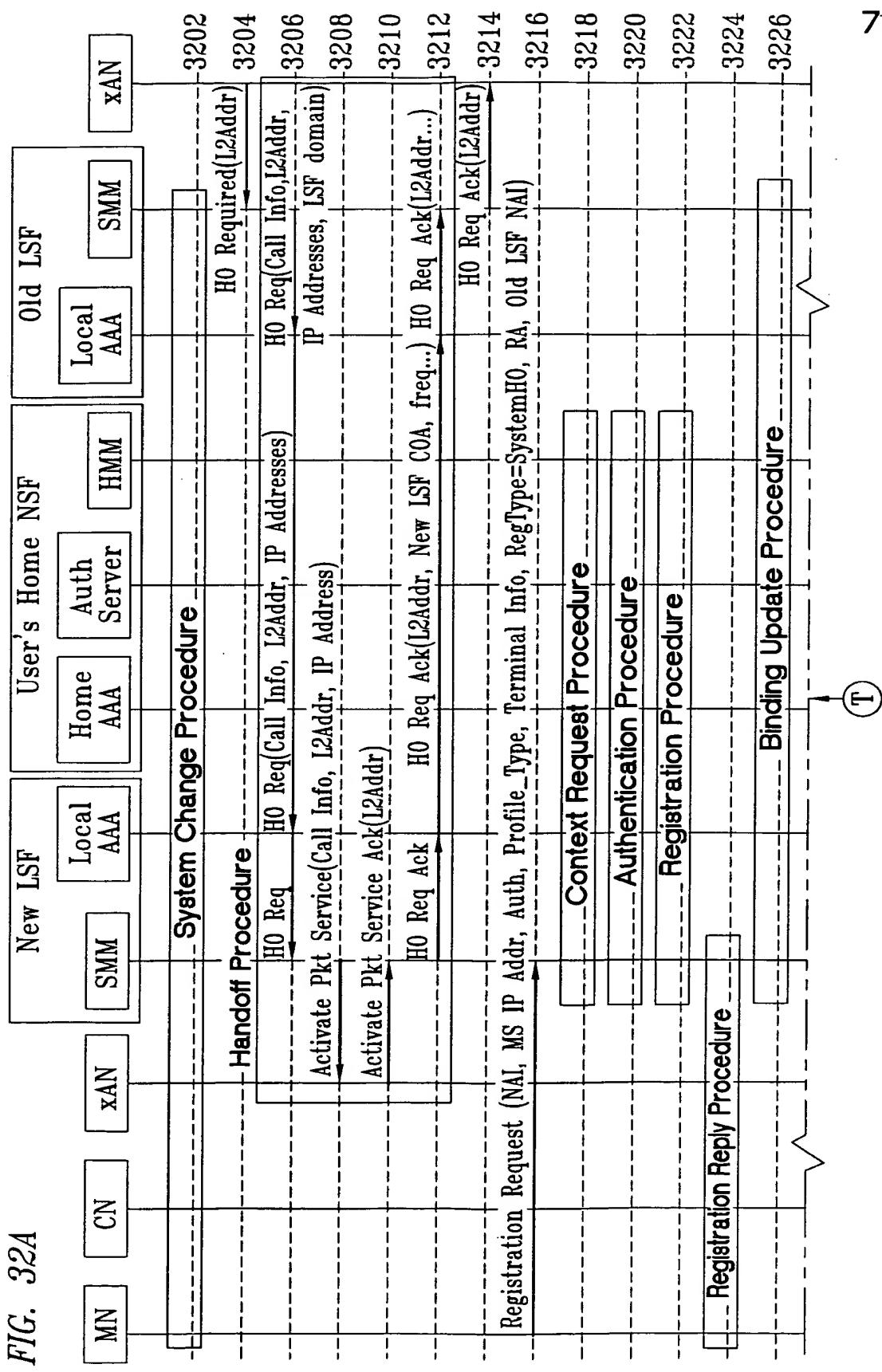


FIG. 32B

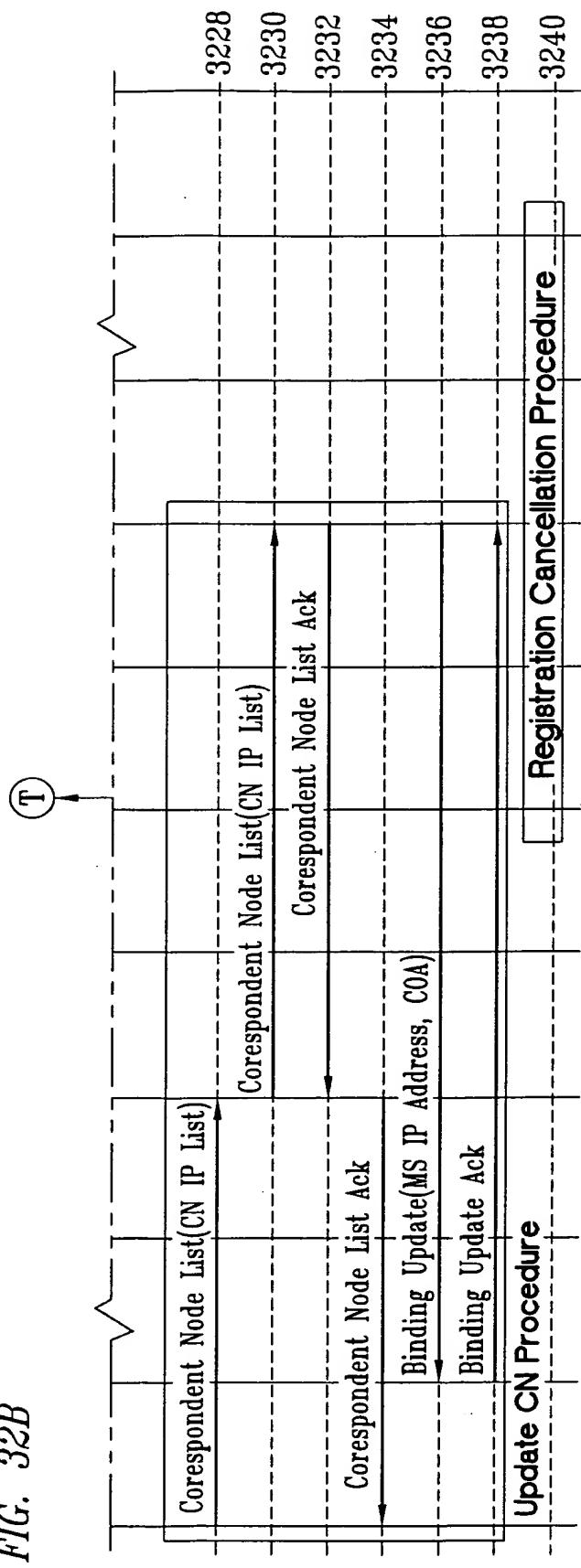
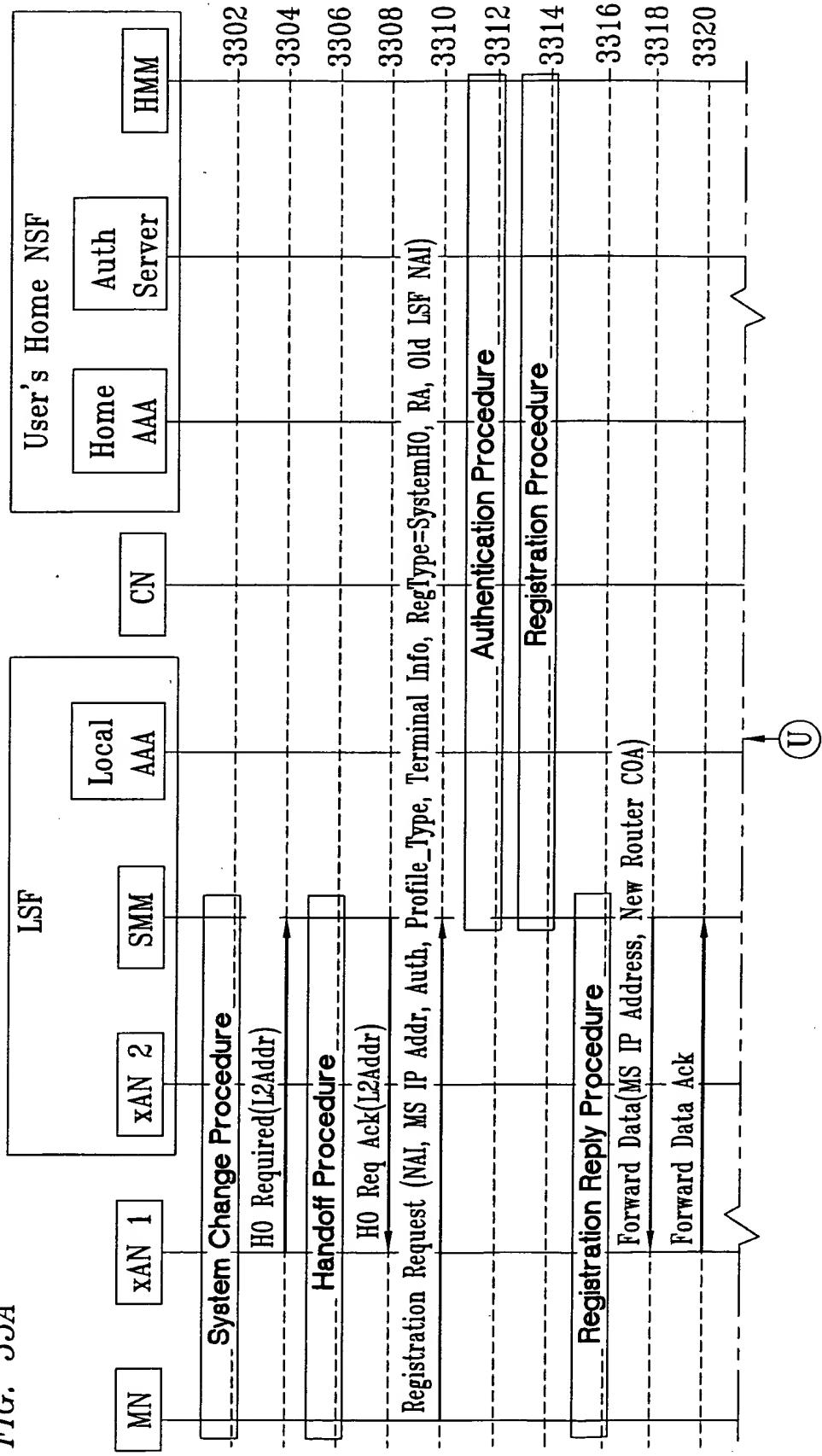


FIG. 334



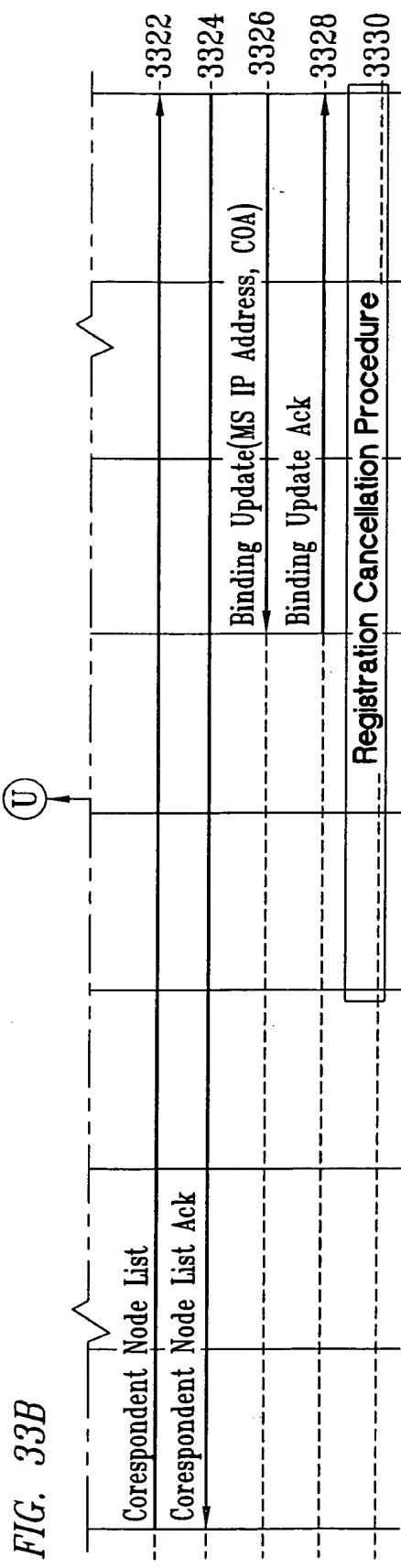


FIG. 34

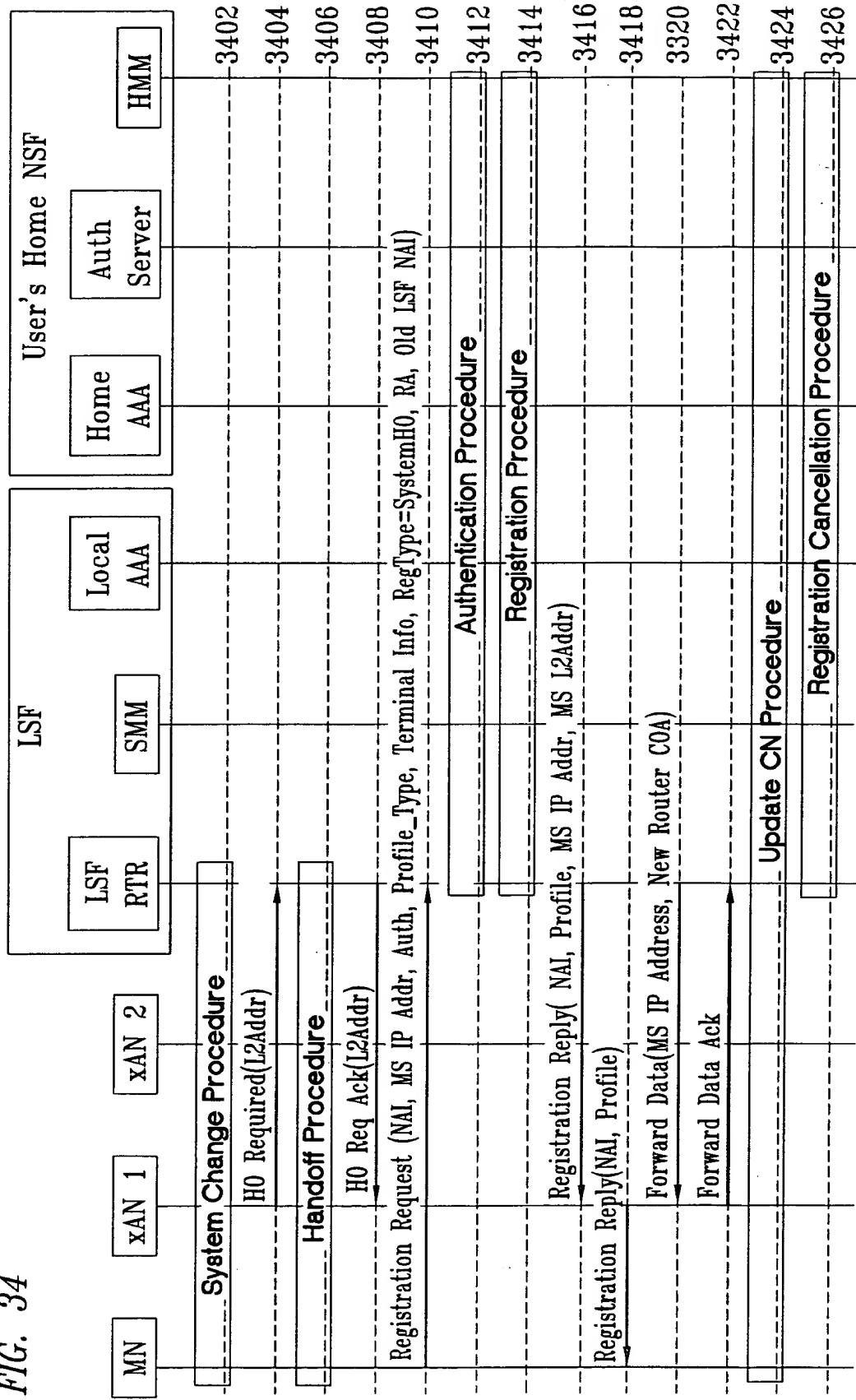
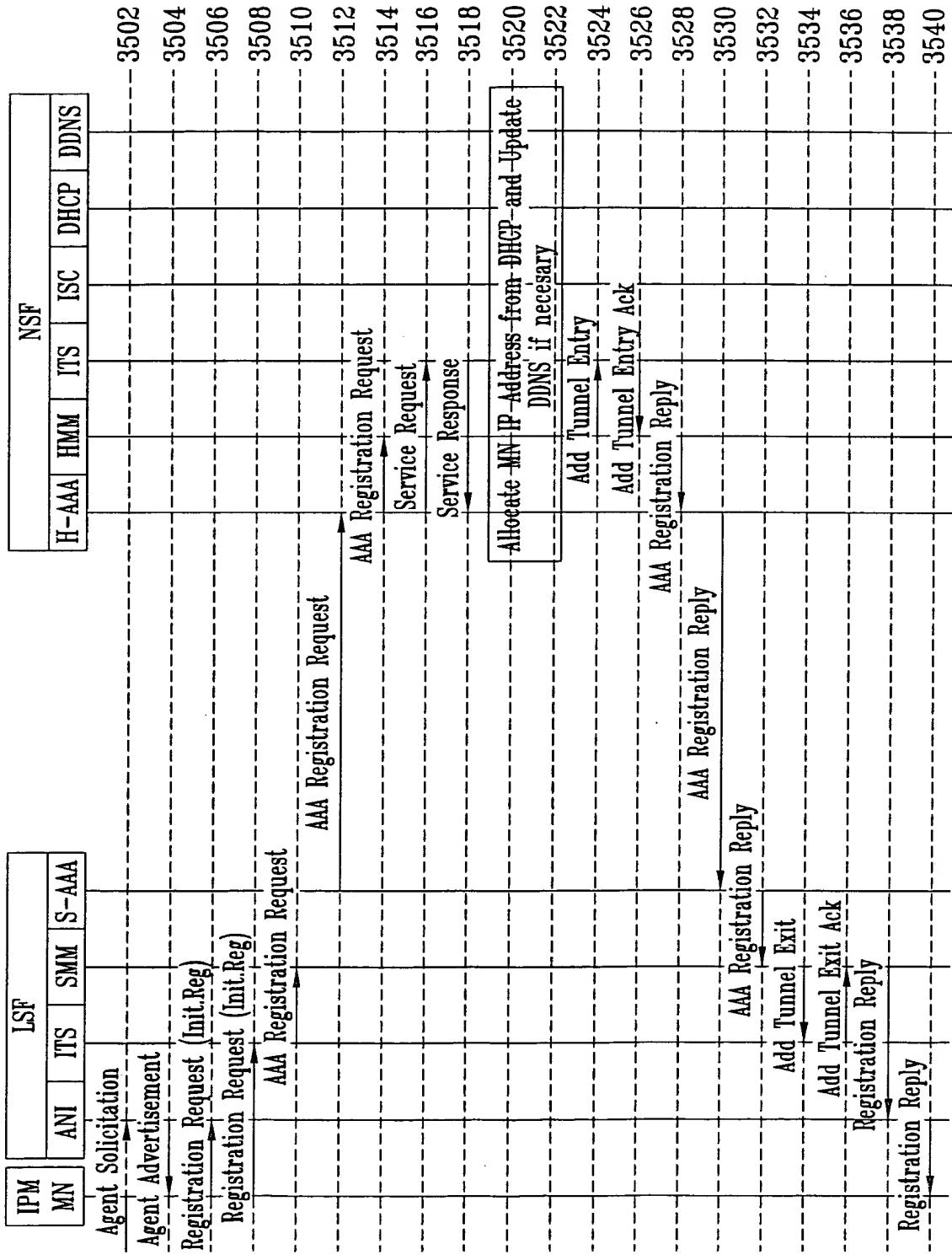


FIG. 35



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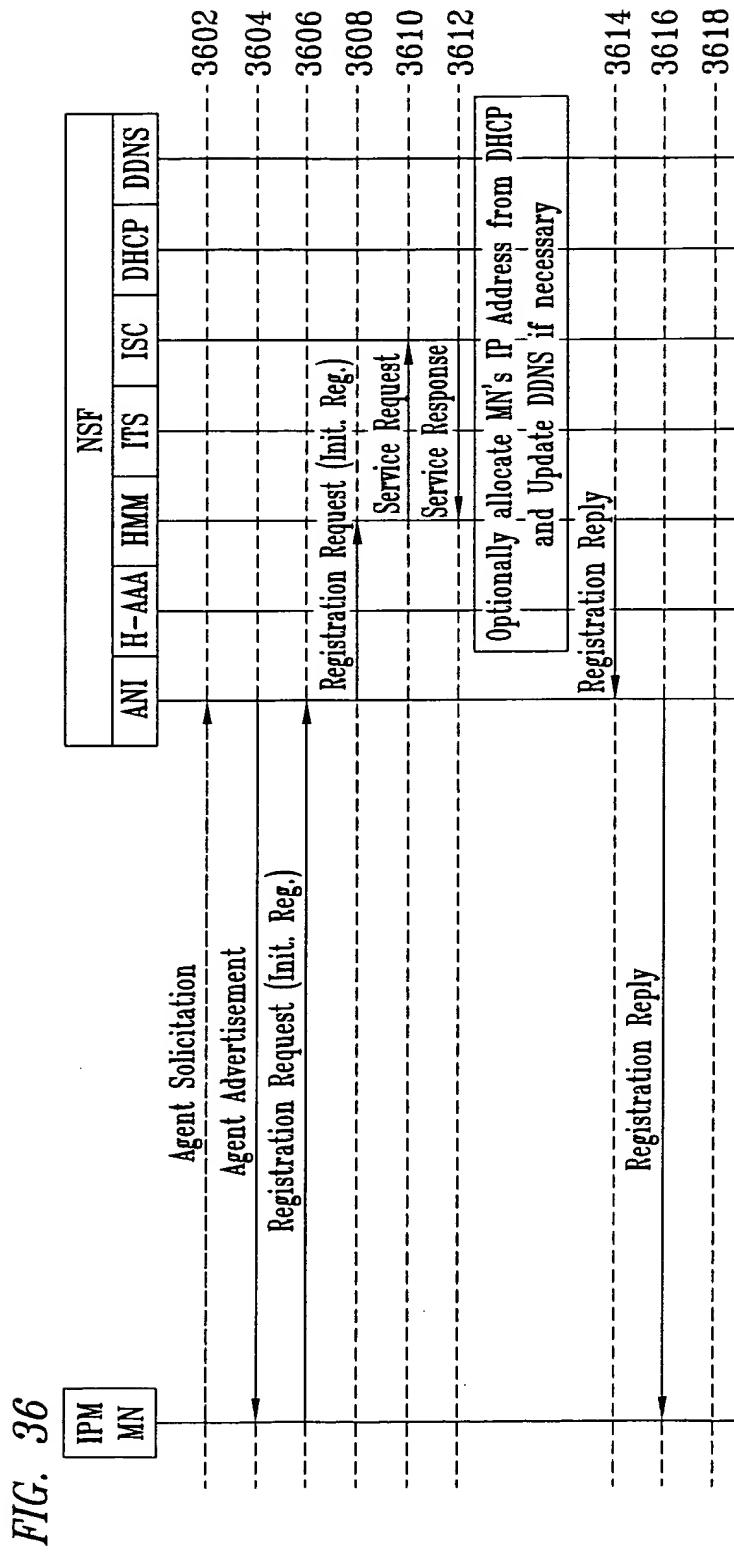


FIG. 37

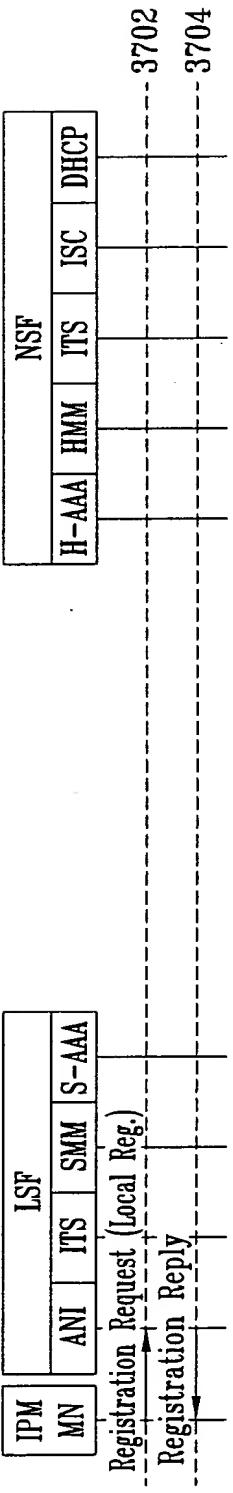
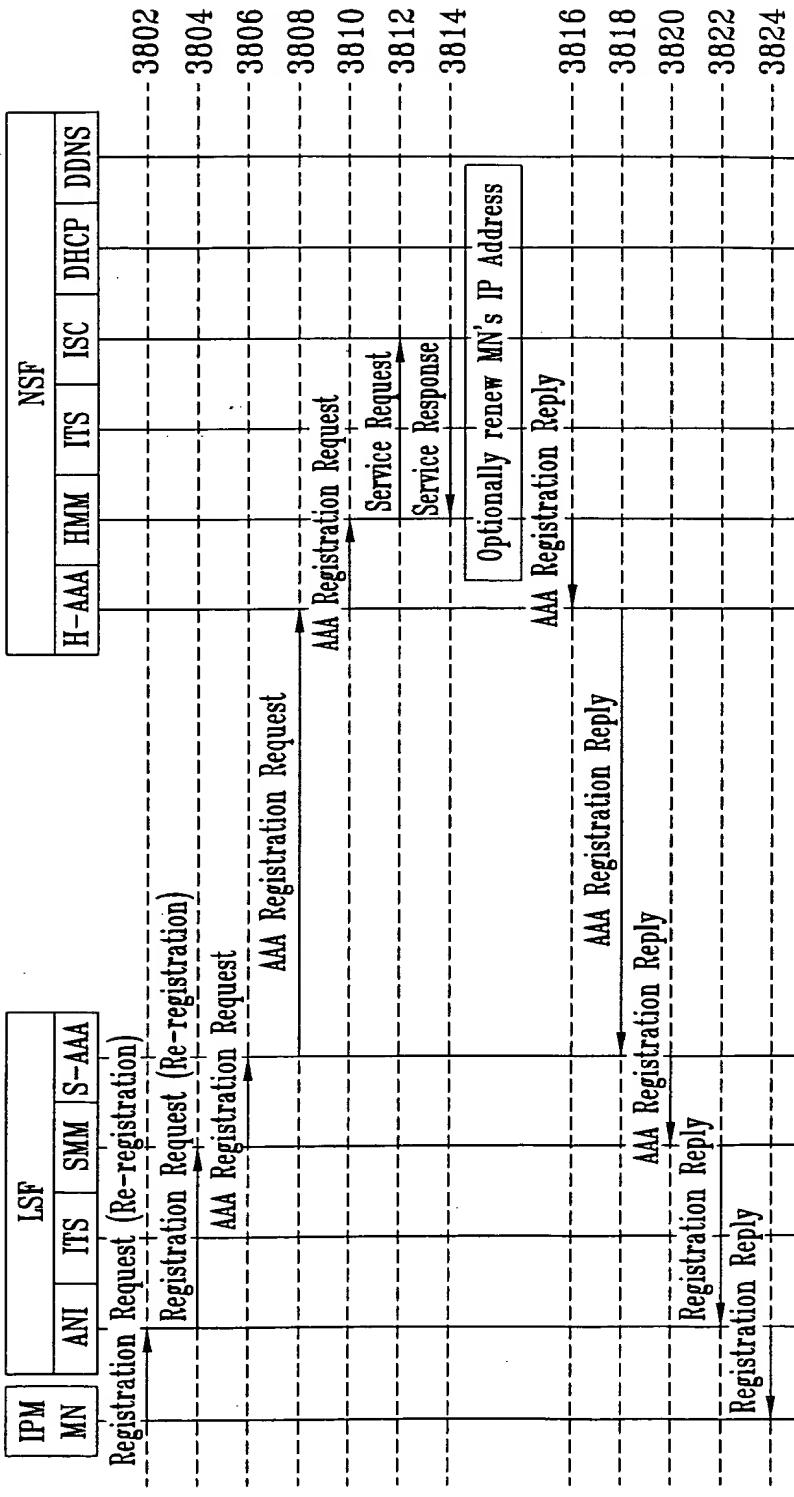


FIG. 38



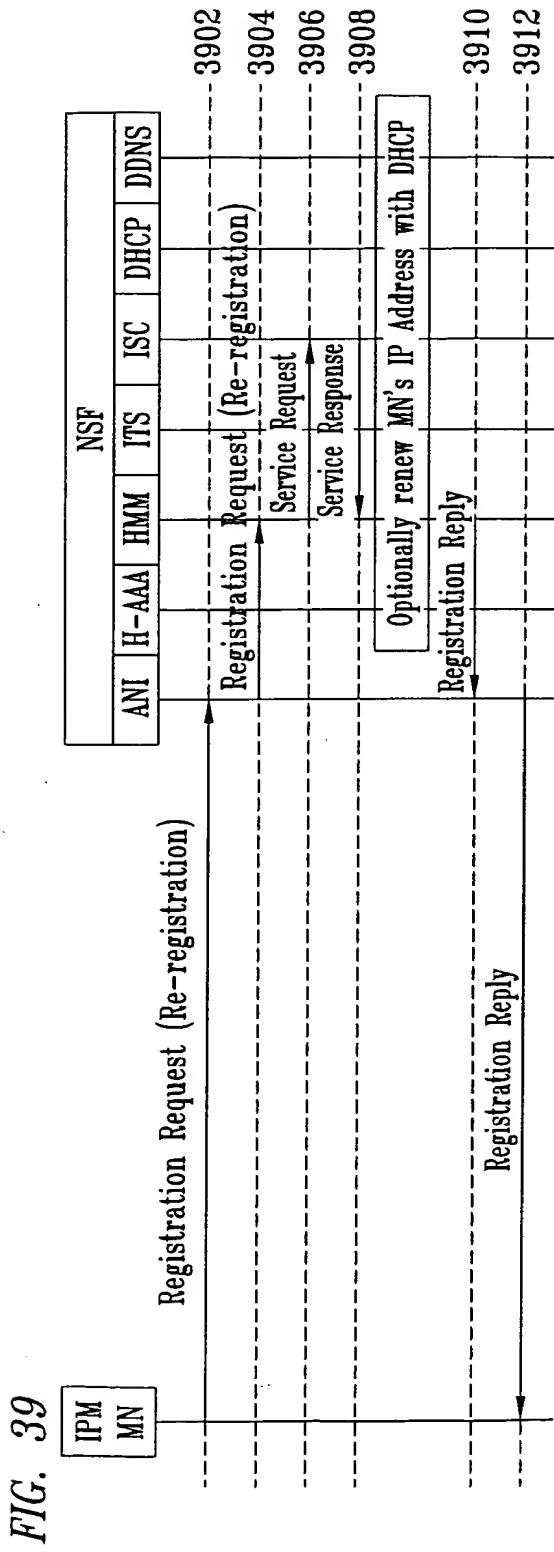
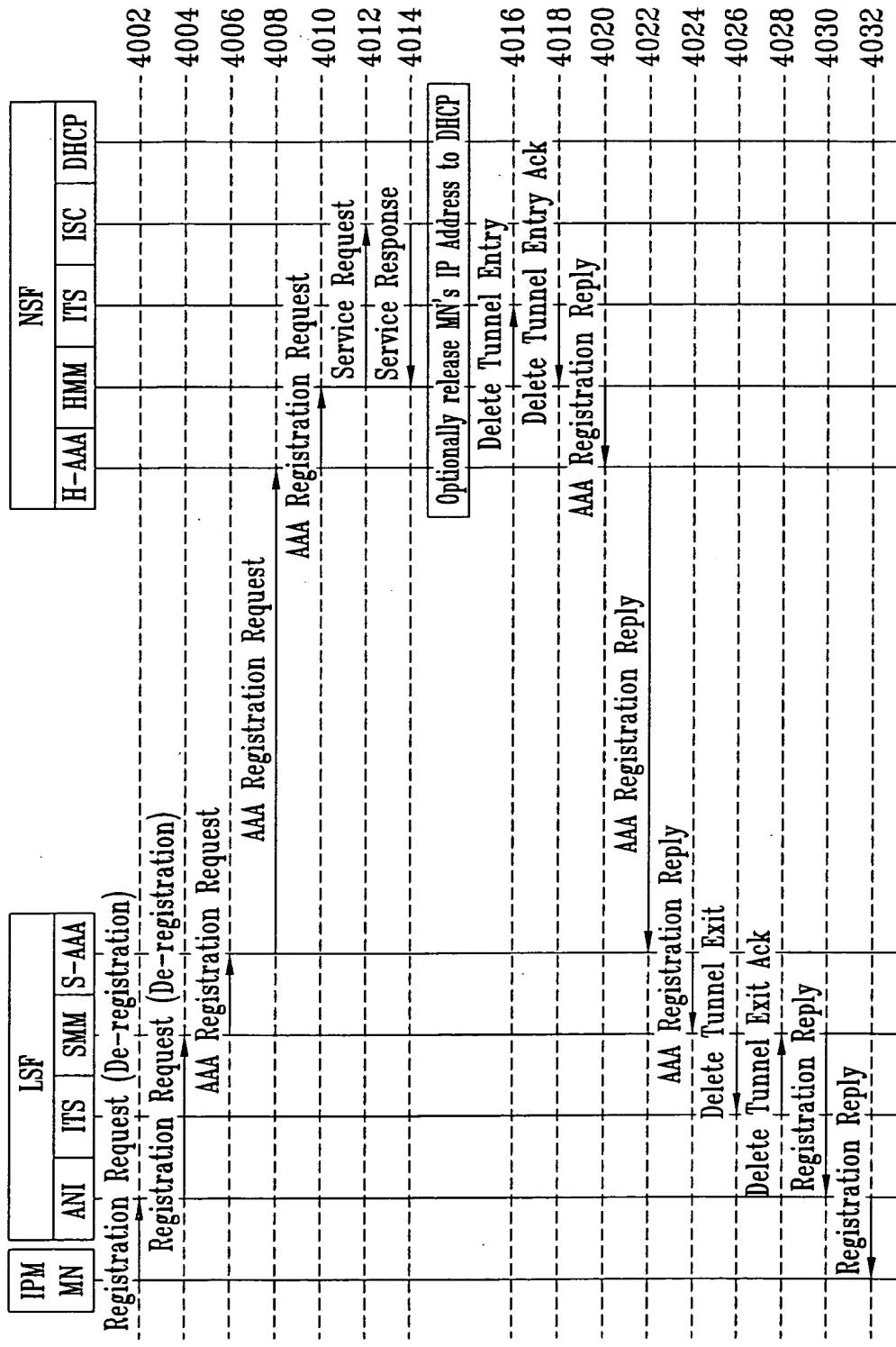


FIG. 40



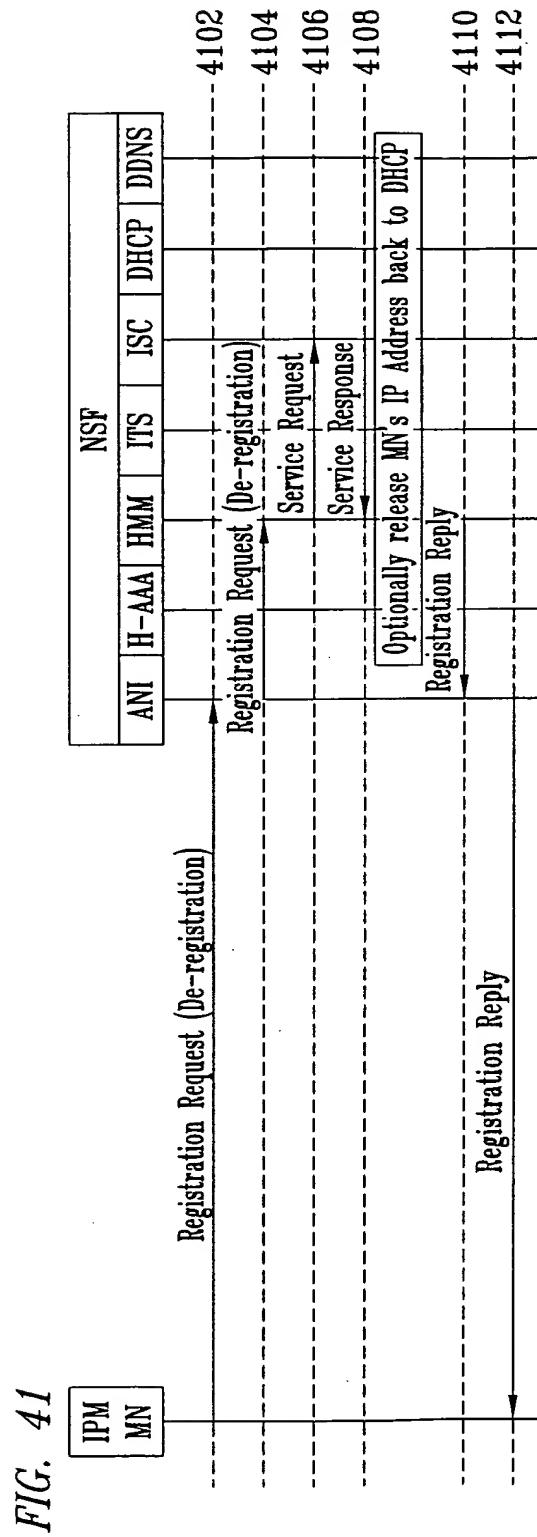
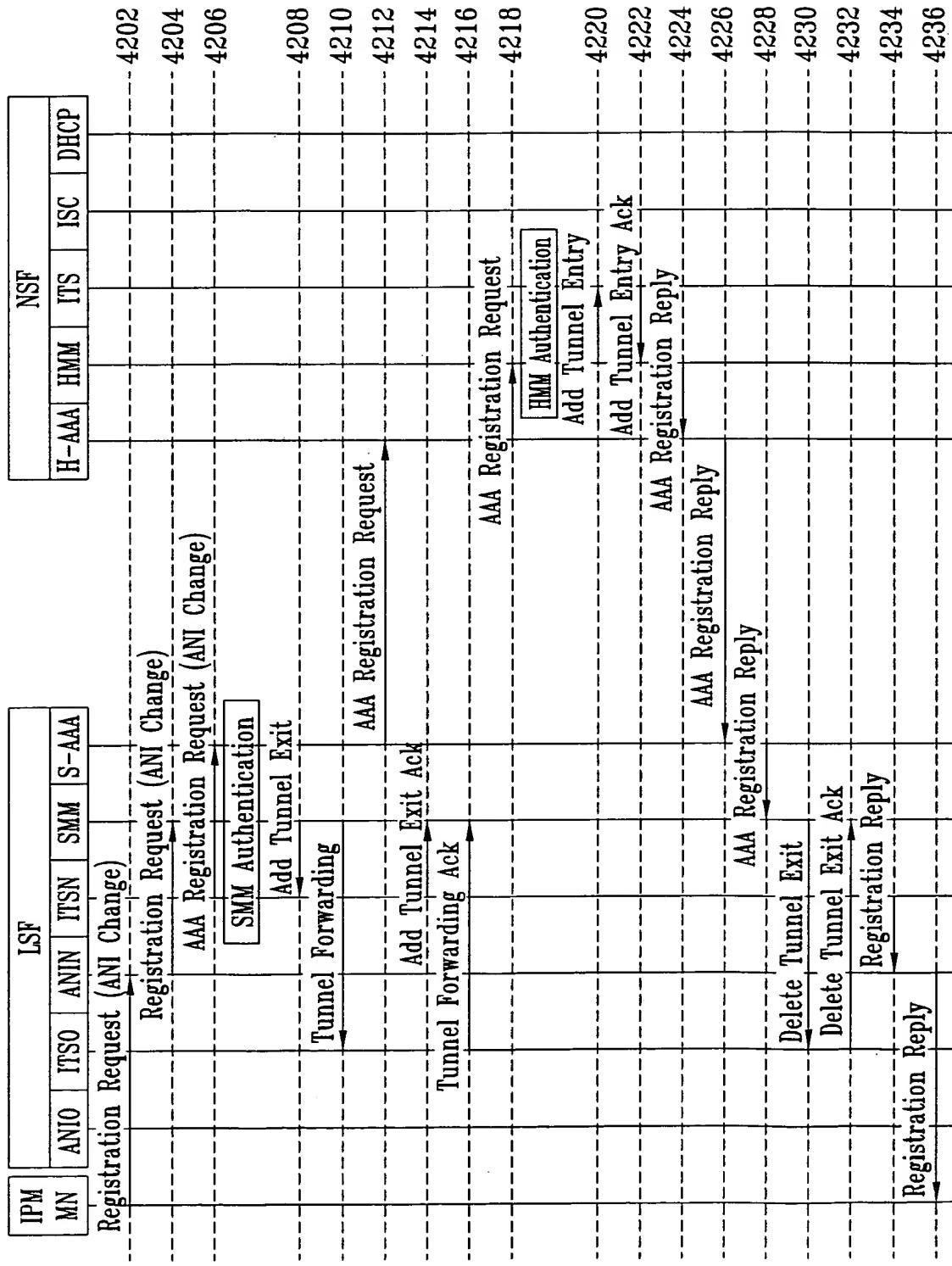
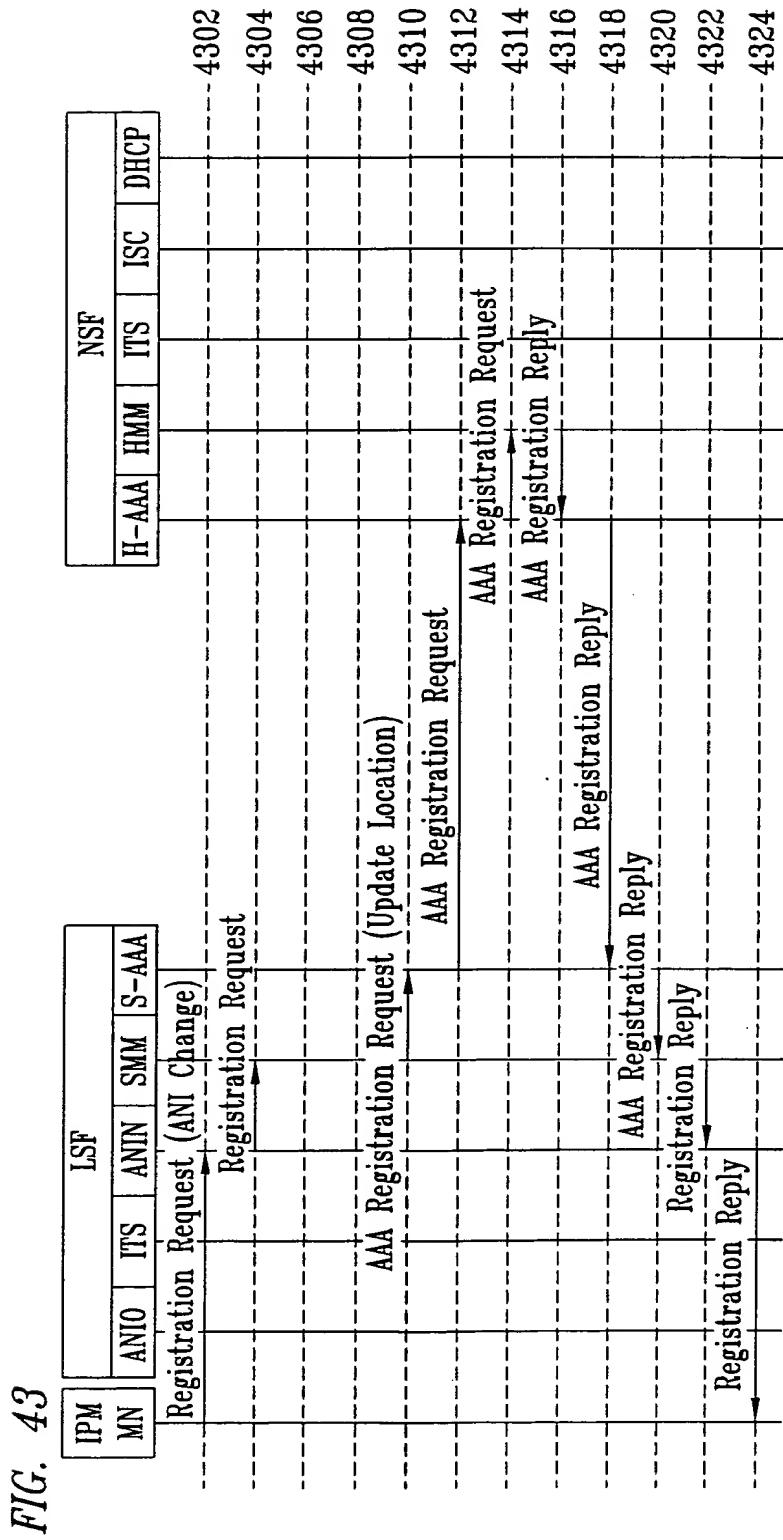


FIG. 42



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FIG. 44A

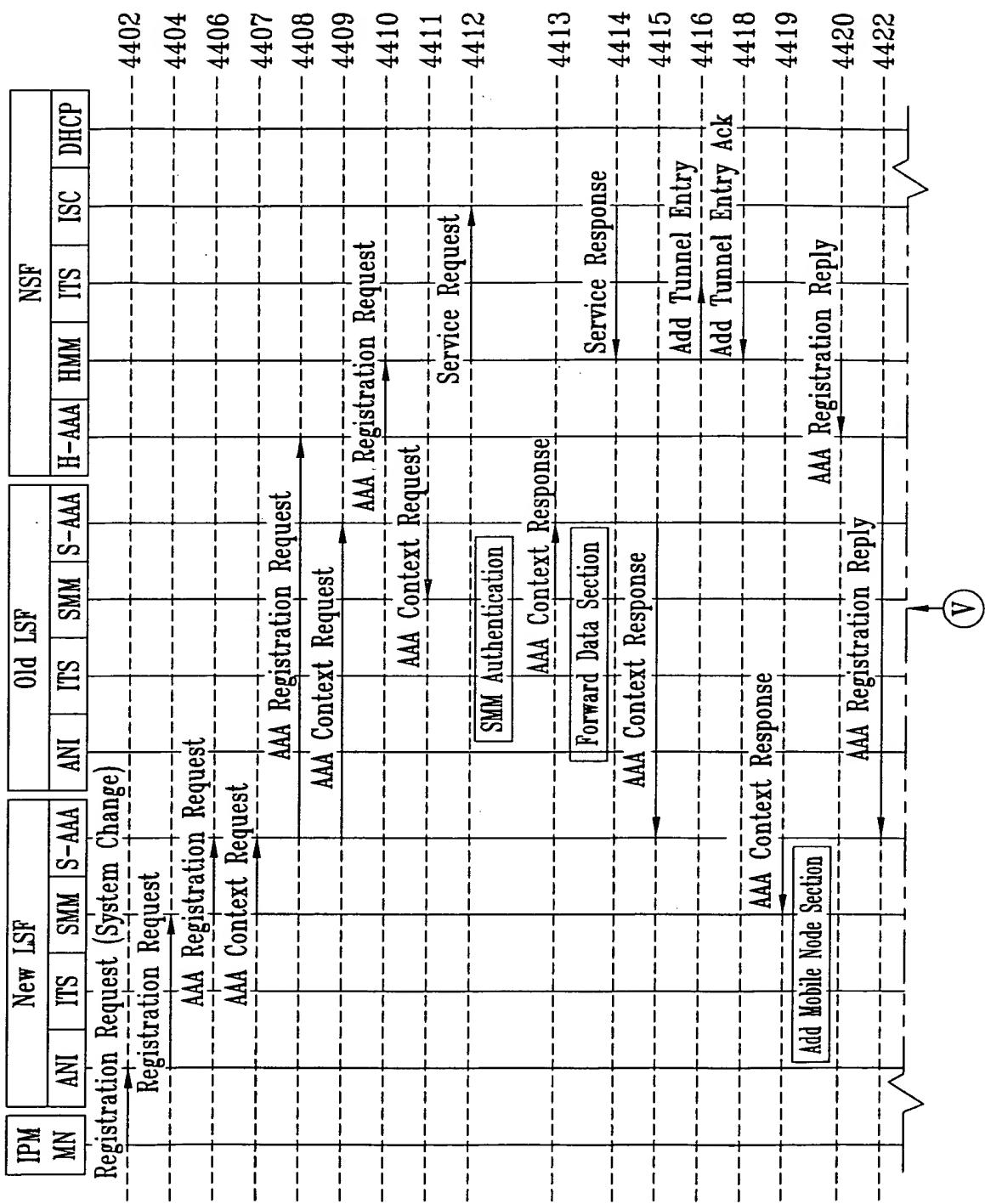


FIG. 44B

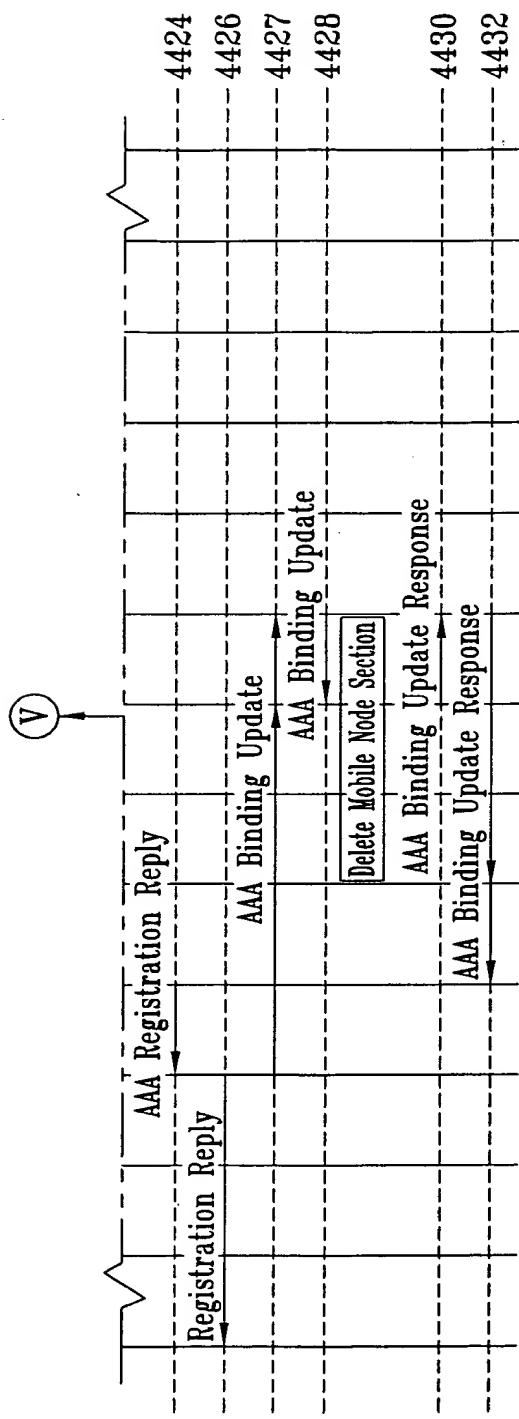


FIG. 45

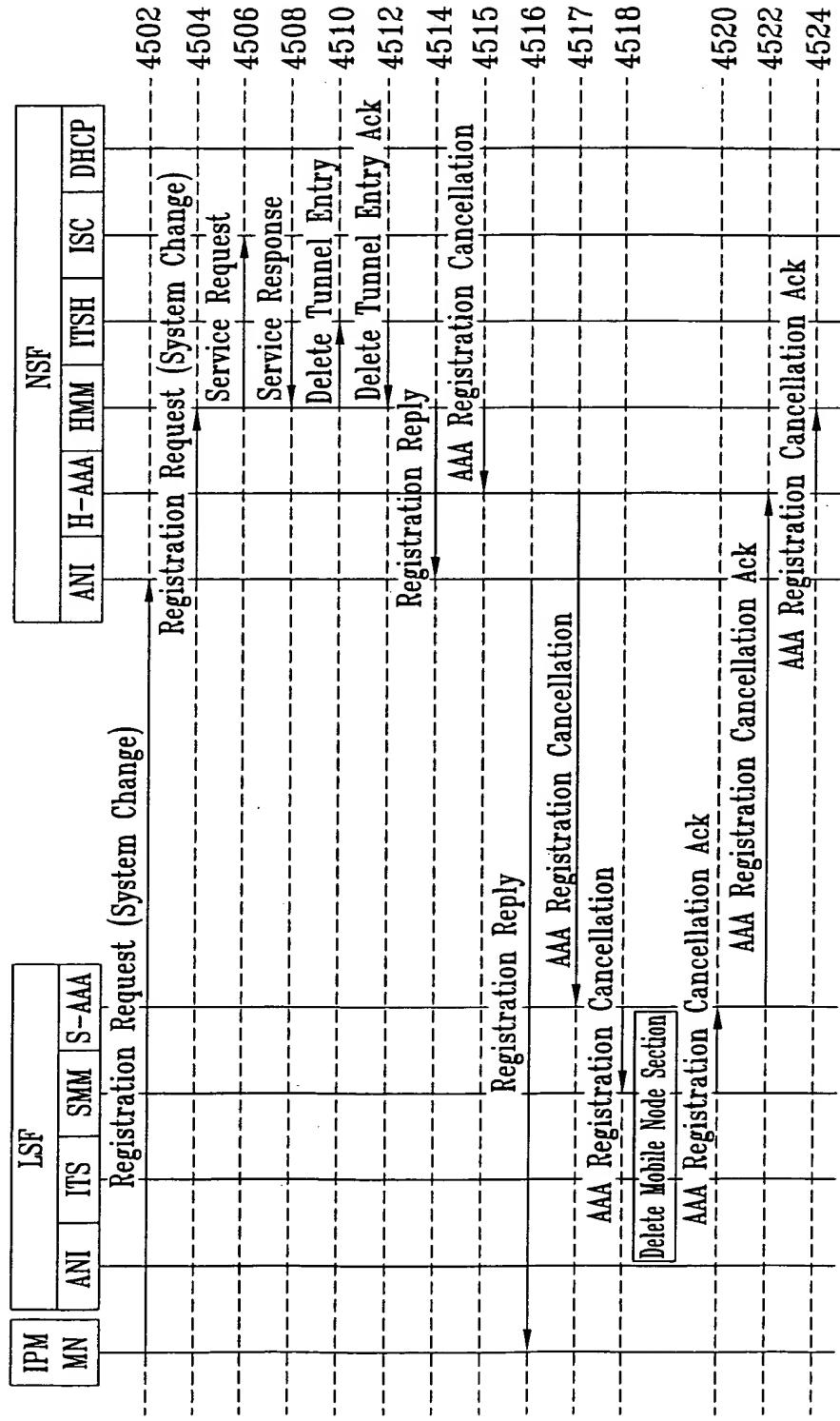
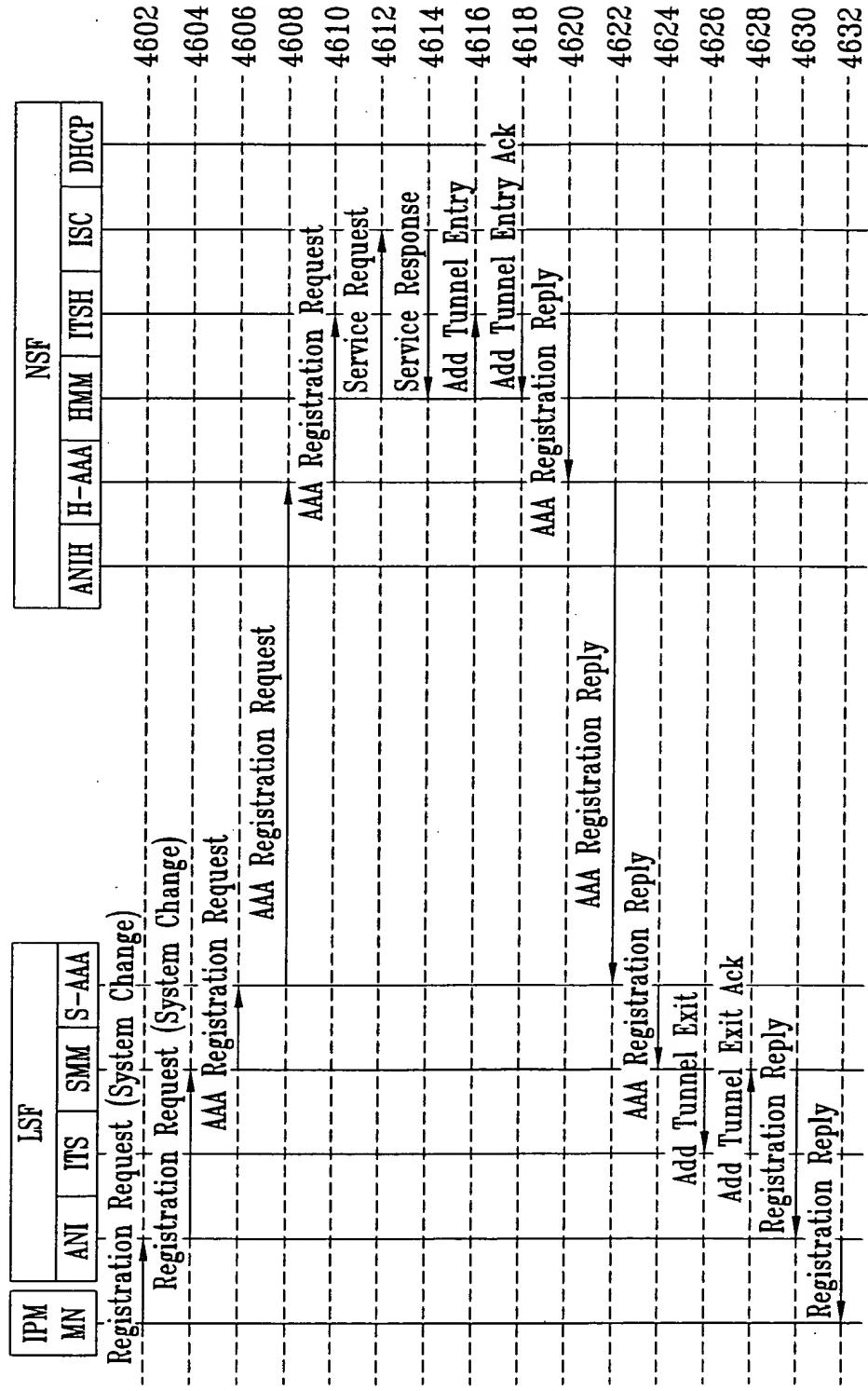
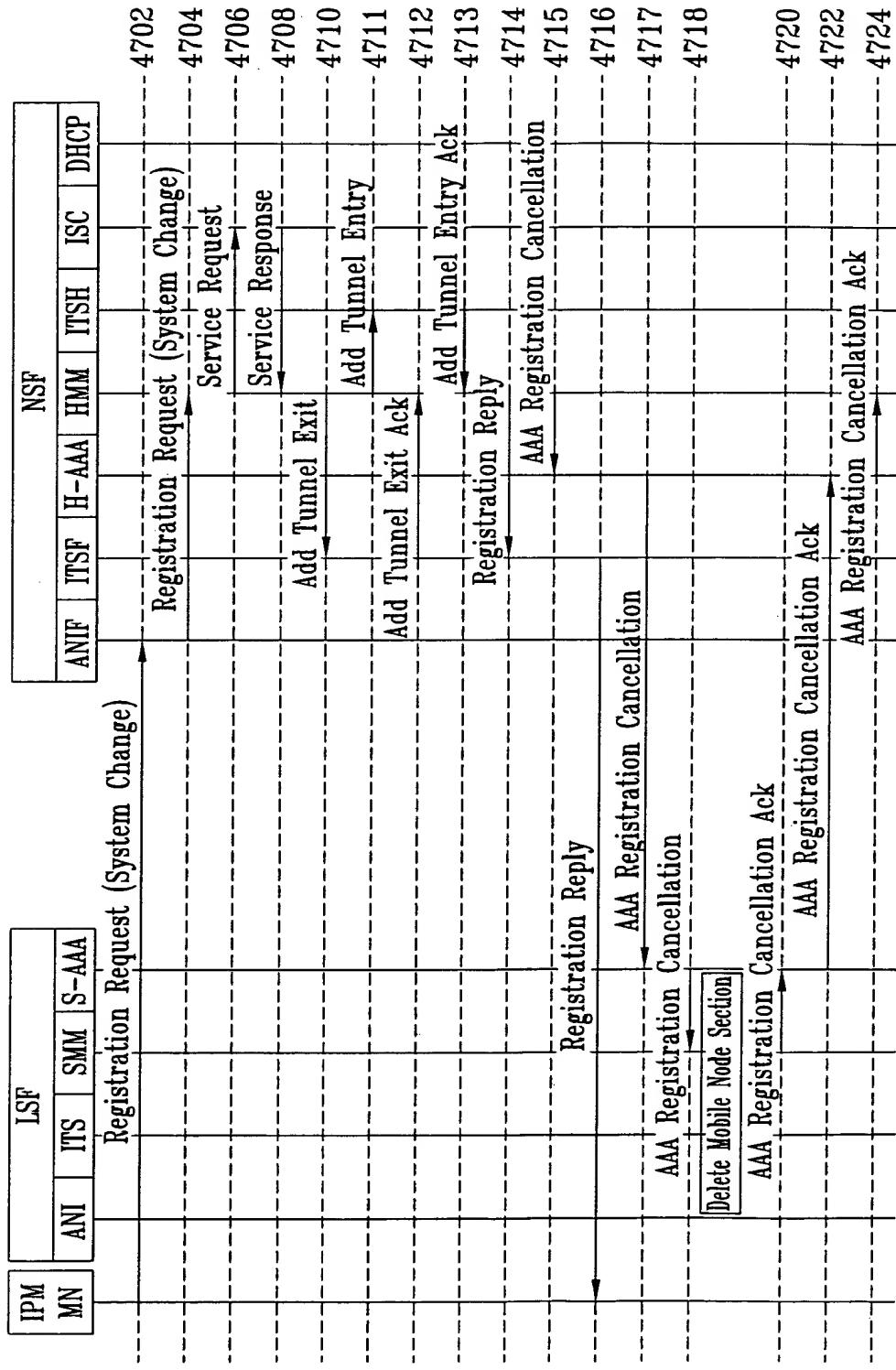


FIG. 46



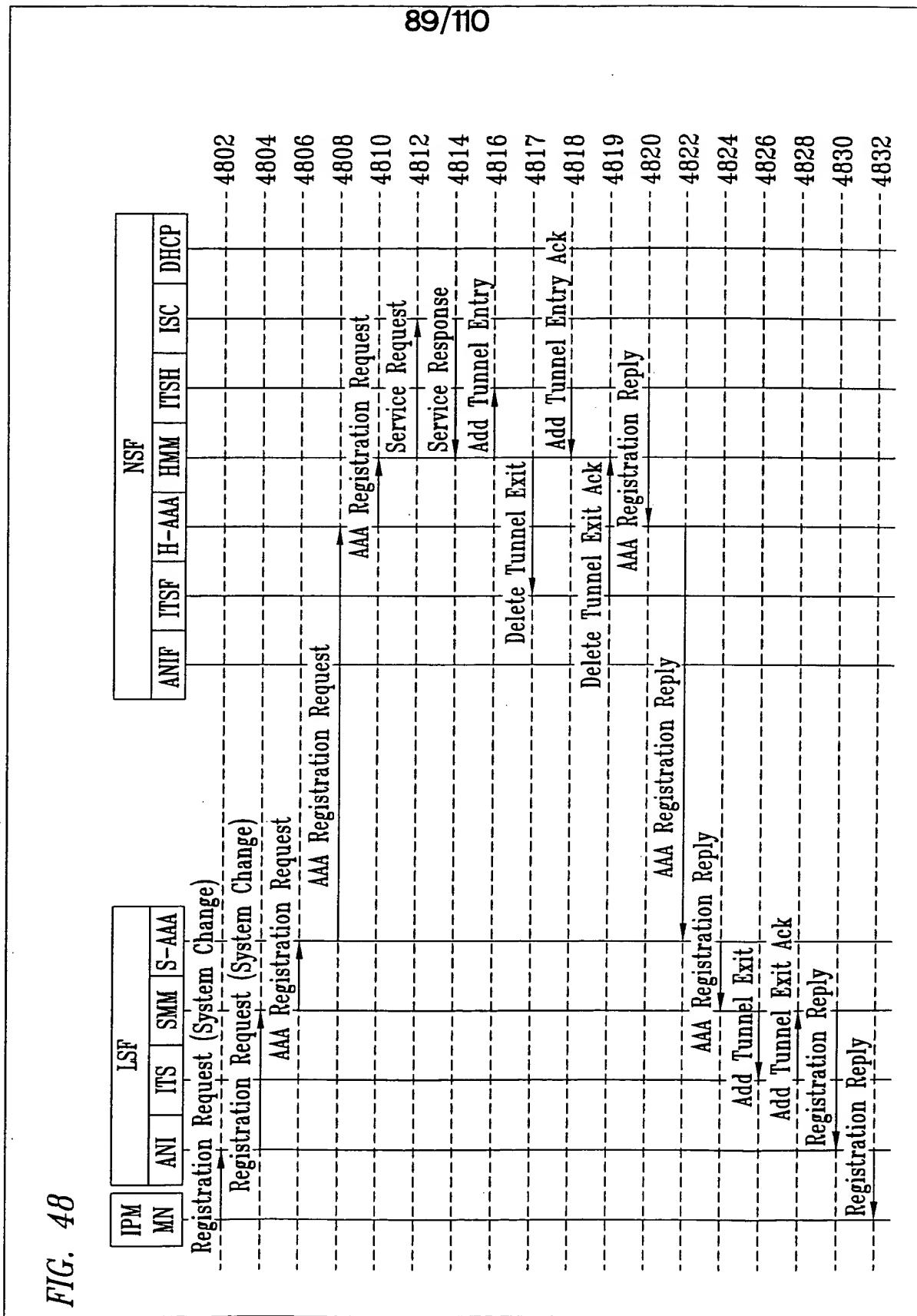
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FIG. 47



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FIG. 48



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FIG. 49

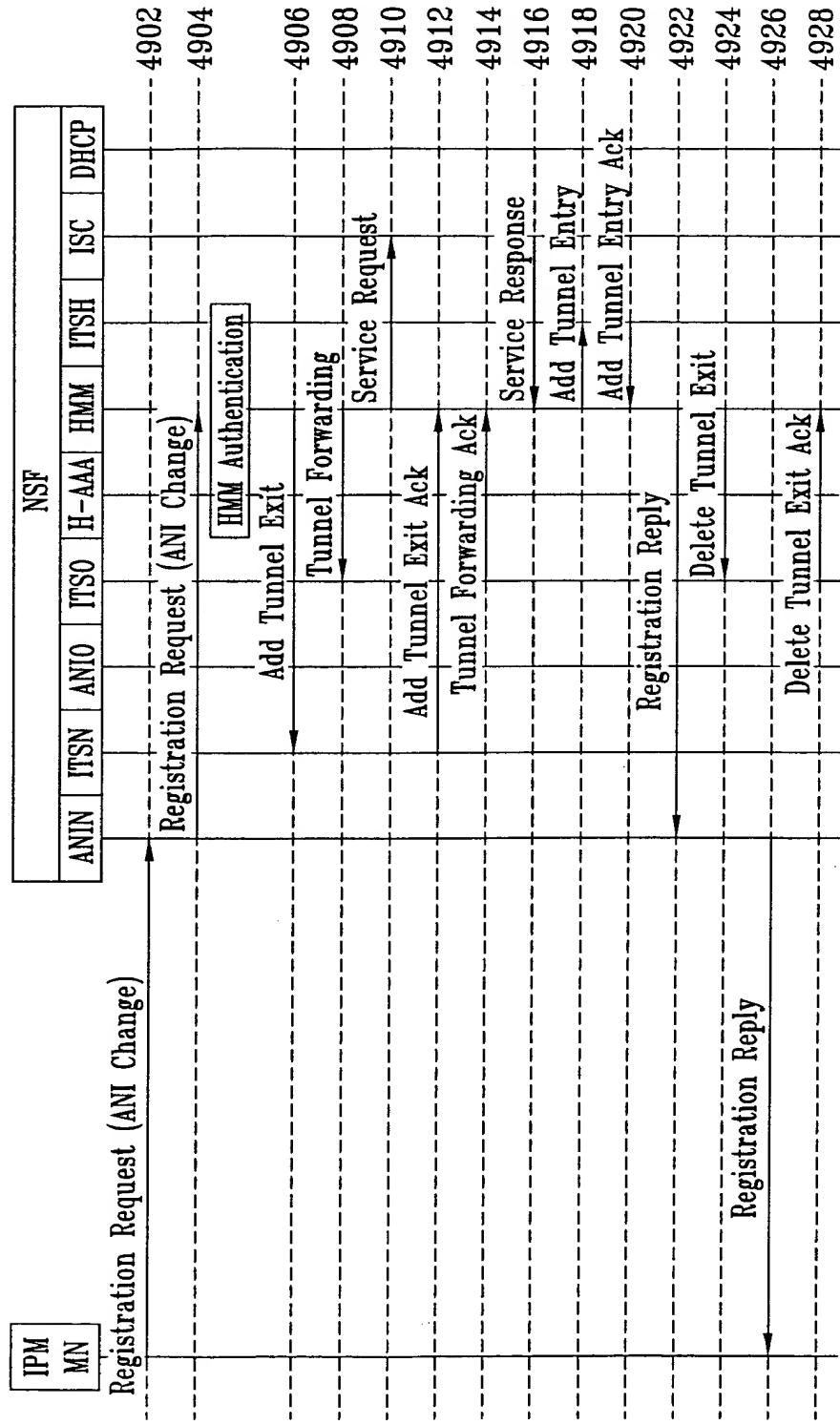


FIG. 50

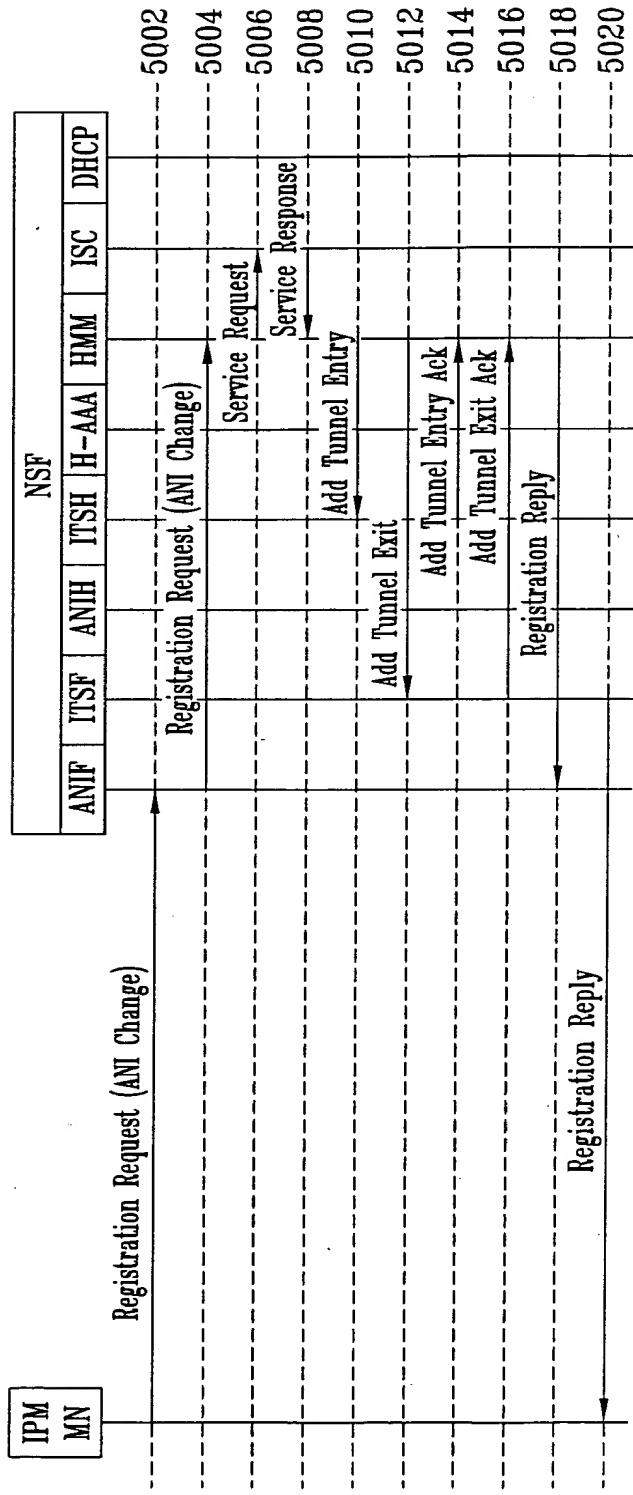


FIG. 51

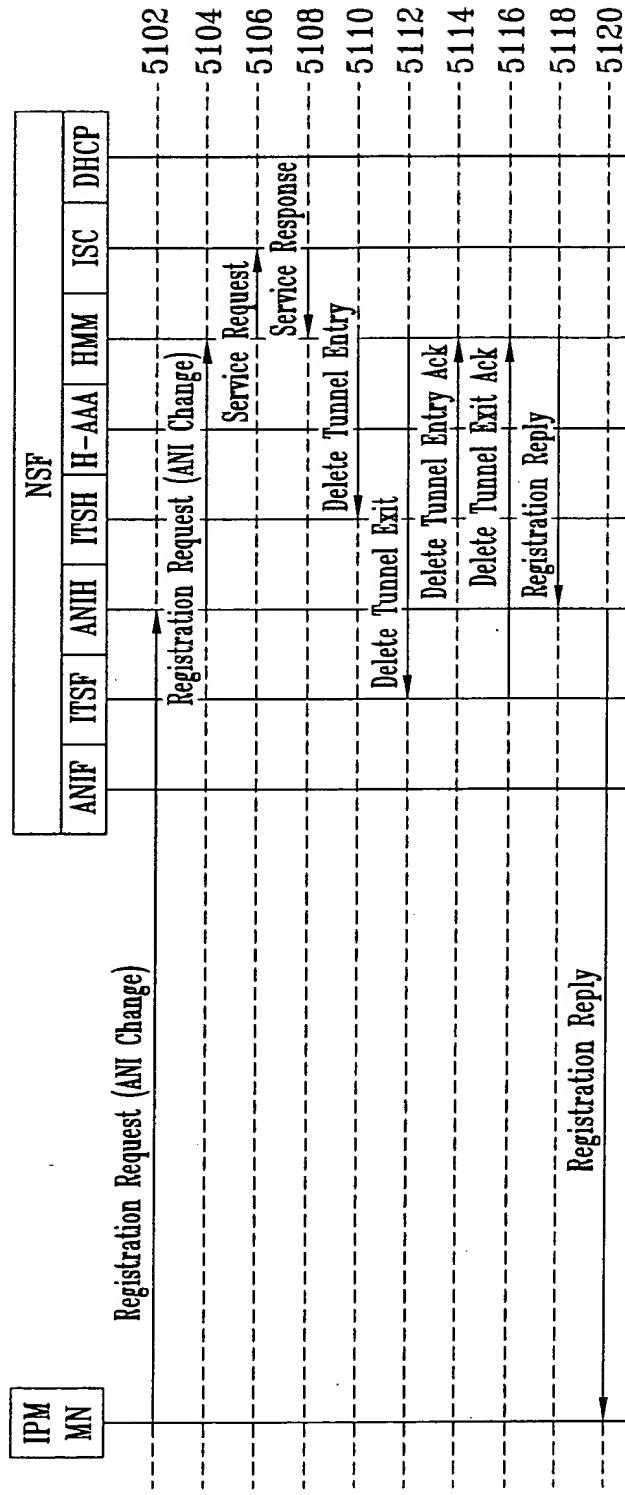


FIG. 52

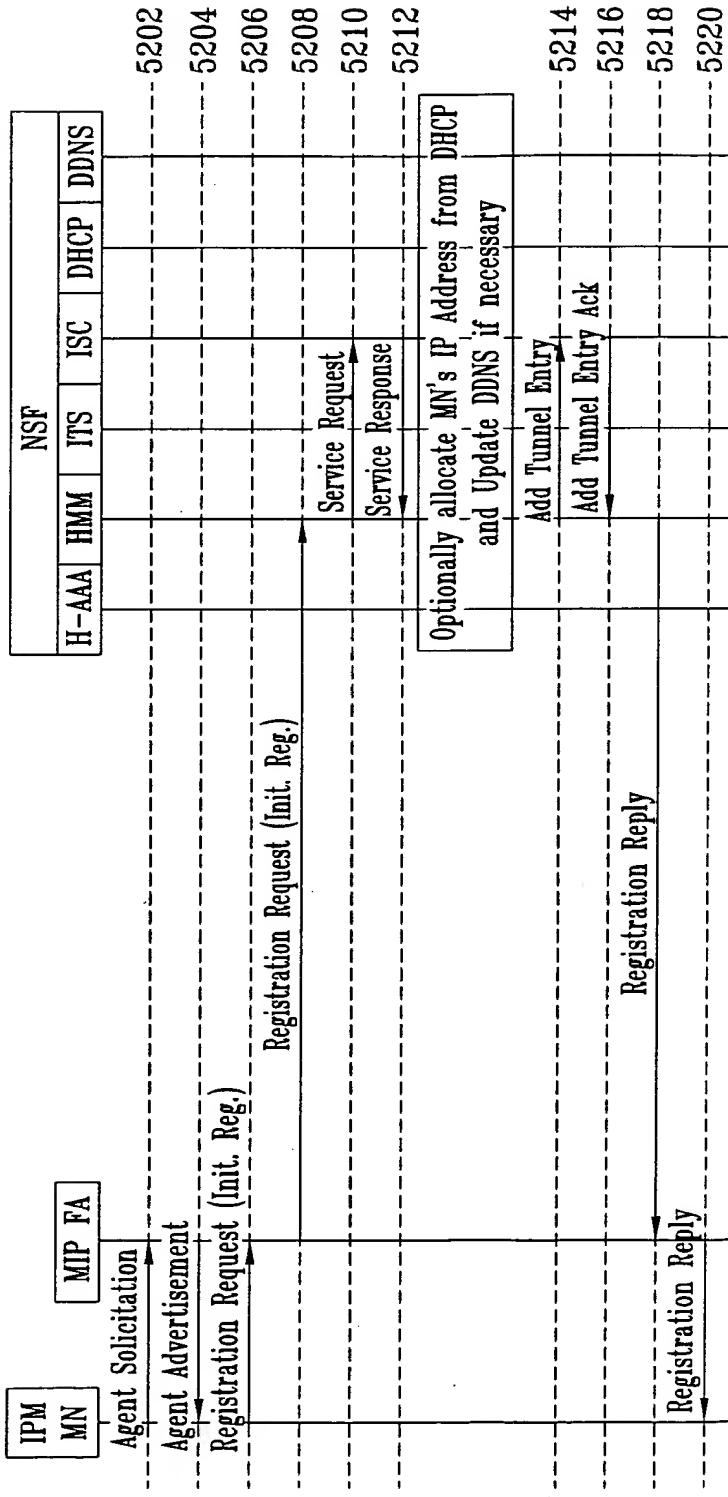
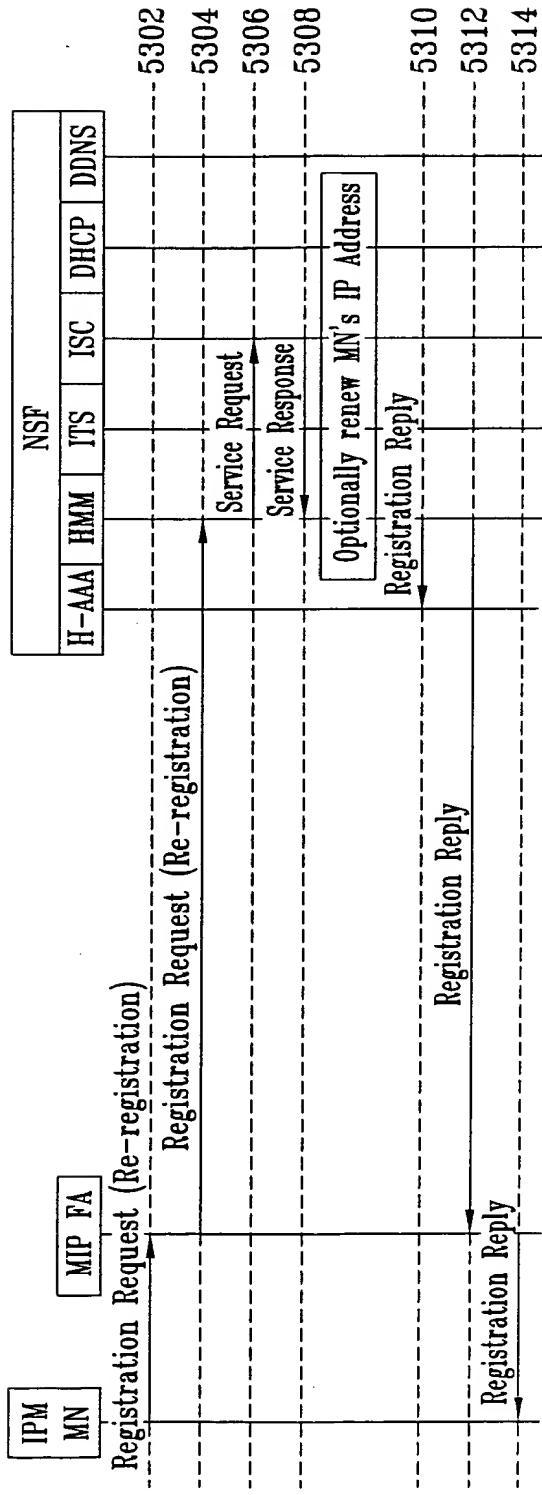
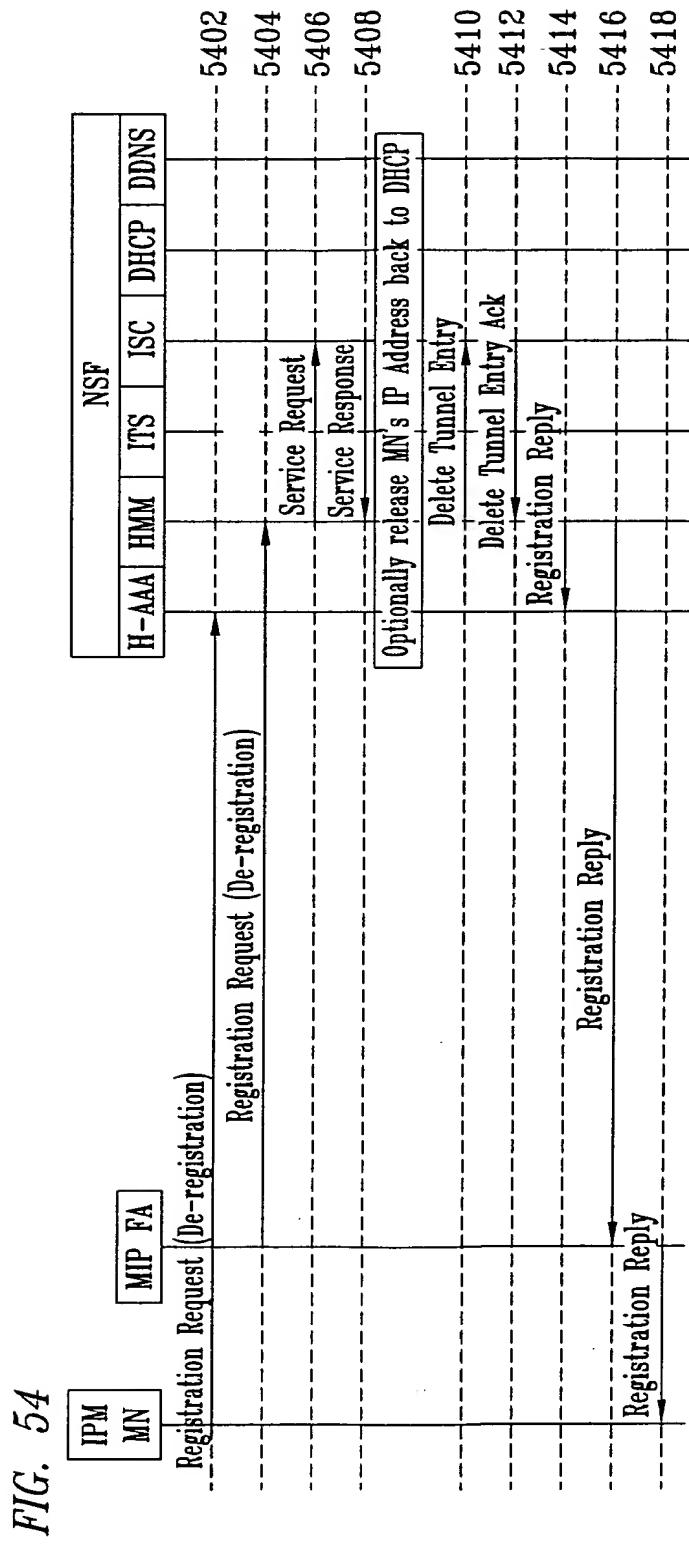


FIG. 53



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FIG. 55

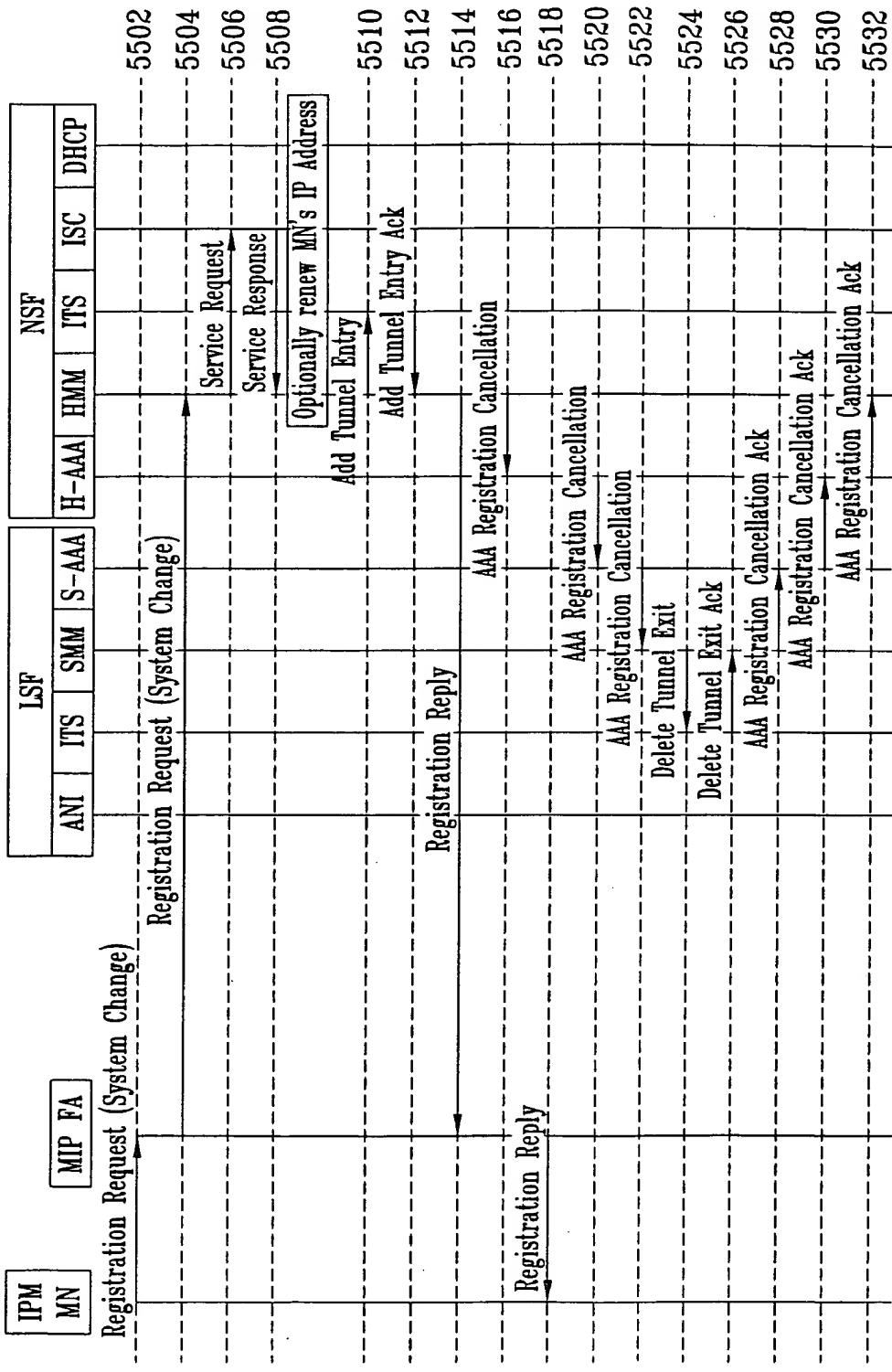
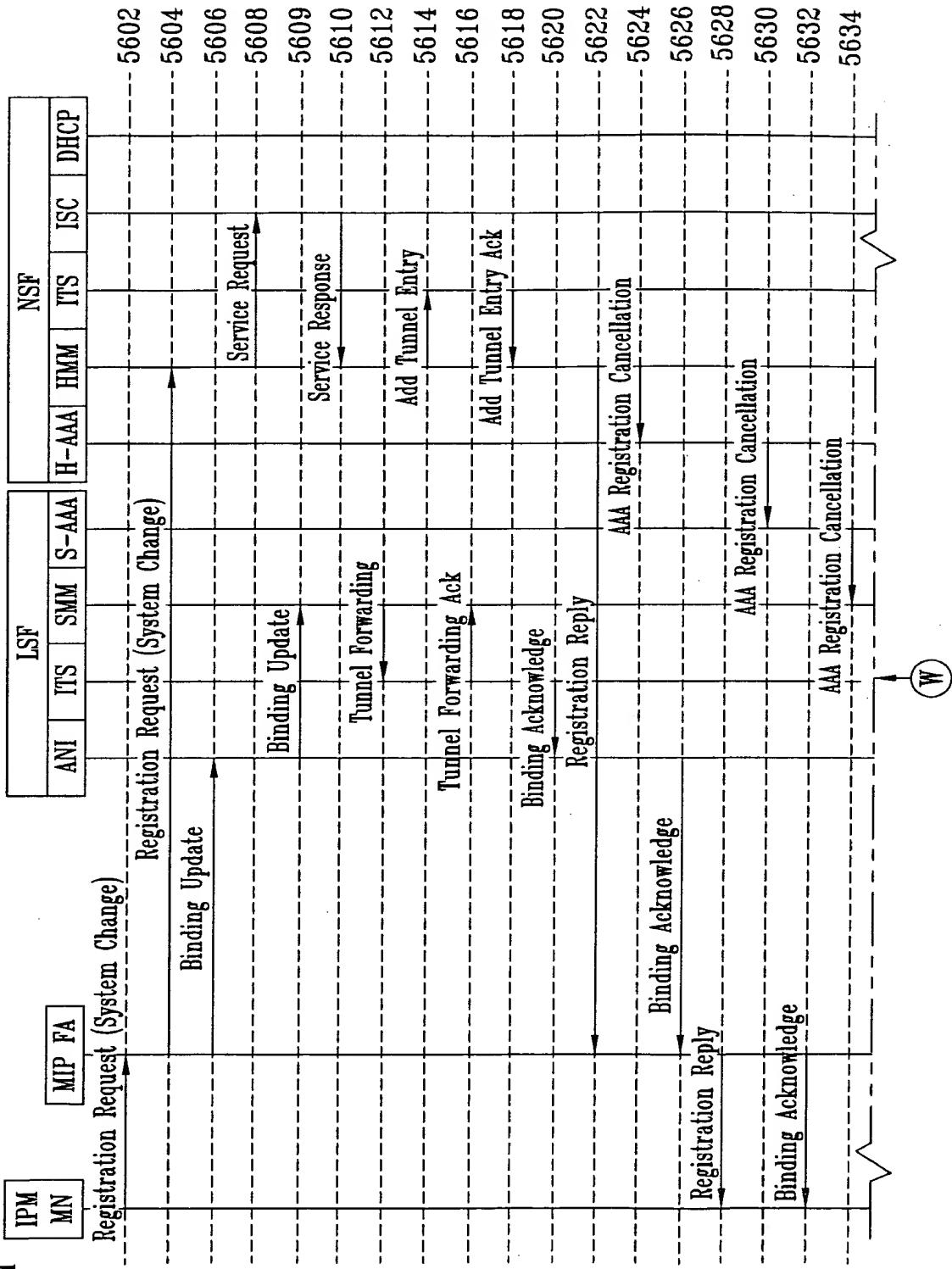


FIG. 56A



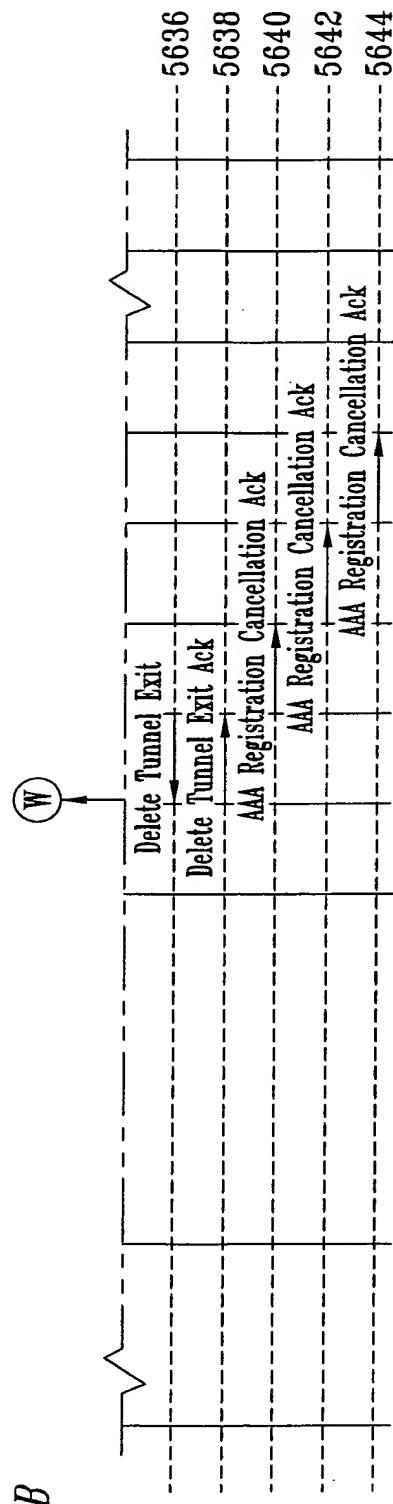
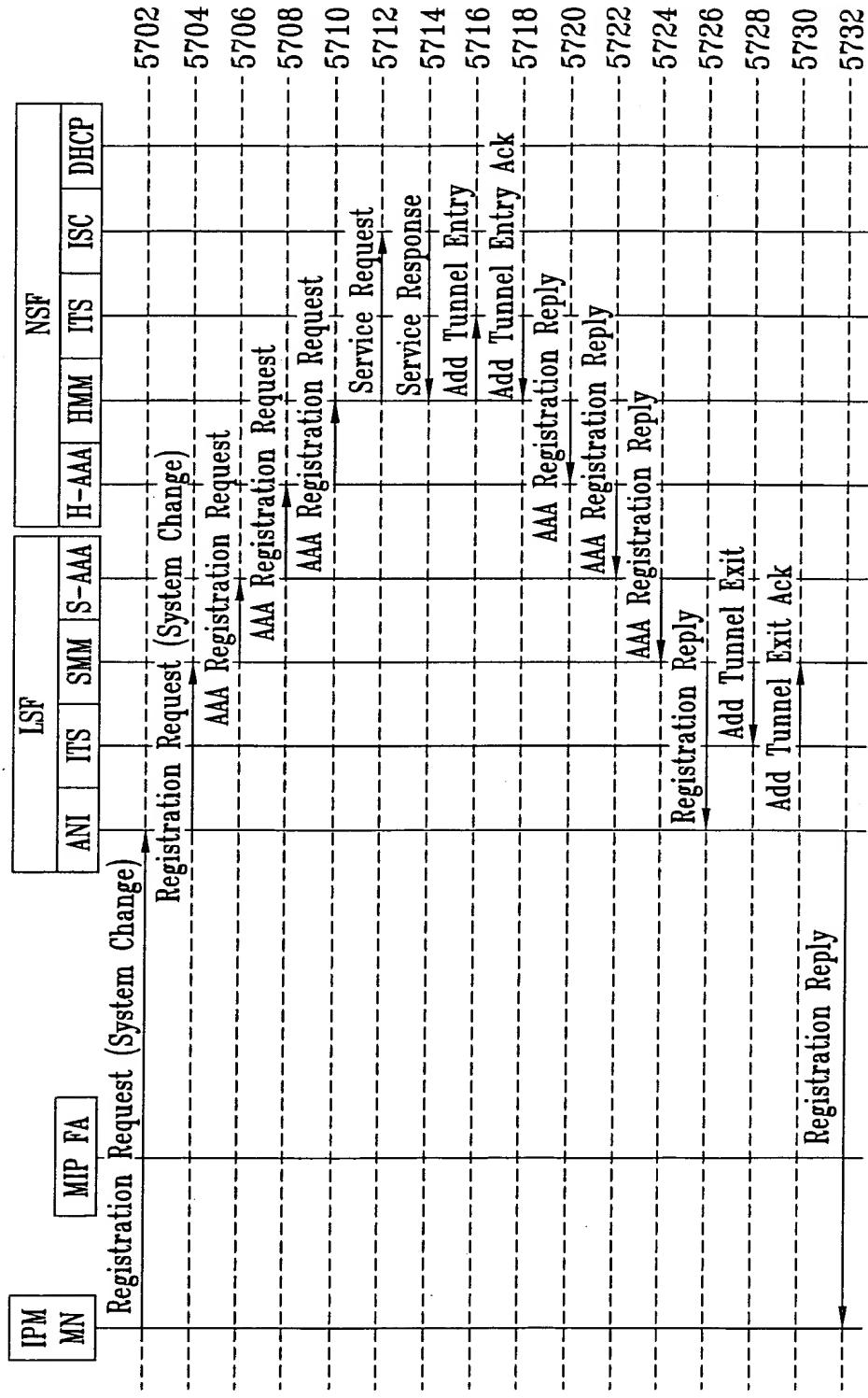


FIG. 56B

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FIG. 57



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FIG. 58

